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ABSTRACT

The purpose of this study was to determine the relative contribution of the leadership styles of cooperative education directors and organization structural characteristics of the program and institution to cooperative education program outcomes in colleges and universities in the United States. The target population was all cooperative education directors at colleges in the United States--obtained from a mailing list of 397 two-year and 505 four-year institutions that have cooperative education programs. A sample consisting of 15 directors for two-year and 15 for four-year colleges, for each of six geographic regions of the United States was selected and mailed questionnaires; 139 usable questionnaires were returned. Results of the study showed cooperative education directors having a low mean leadership style of consideration score and an average initiating structure score, suggesting that factors outside the study may have resulted in these persons having a perceived leadership style of consideration lower than norms for educational supervisors. There were no linear relationships found significant among leadership style variables and organizational structural variables. Moreover, there were no statistically significant linear relationships among the leadership styles, organization structure, and cooperative education program outcome variables as measured in this study. It was recommended that research be conducted to determine what other variables might account for program outcomes in cooperative education. (KC)

LEADERSHIP STYLES OF COOPERATIVE EDUCATION DIRECTORS, ORGANIZATIONAL CHARACTERISTICS AND ELEMENTS OF PROGRAM SUCCESS

DR. WILLIAM A. STULL, PROJECT DIRECTOR
UTAH STATE UNIVERSITY, SEPTEMBER, 1981

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LEADERSHIP STYLES OF COOPERATIVE EDUCATION DIRECTORS, ORGANIZATIONAL CHARACTERISTICS AND ELEMENTS OF PROGRAM SUCCESS IN COLLEGES AND UNIVERSITIES IN THE UNITED STATES

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Finally, appreciation is extended to the panel of expert judges who assisted in the development of the research instrument, to the pilot test participants, and to the many co-op directors who completed the very long and difficult questionnaire required for this study.

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LEADERSHIP STYLES OF COOPERATIVE EDUCATION DIRECTORS, ORGANIZATIONAL STRUCTURAL CHARACTERISTICS, AND ELEMENTS OF PROGRAM SUCCESS

INTRODUCTION

Students pursuing an education at American colleges and universities are preparing, in part, to enter society as productive members of the labor force. Confining the process of education to the classroom limits the opportunities for educational experiences available to students. Limited resources of institutions of higher education, according to Radvany (1979), restrict the accessibility of students to equipment, techniques, and processes.

"Cooperative Education is an educational strategy that involves students in productive work as an element of the curriculum." (Wilson, 1978) Through guided placement of students into work situations that are properly supervised, students have an expanded set of opportunities for educational experiences which otherwise may not have been possible in the classroom. The cooperative relationship that is established between the institution and the agency providing the students employment extends the capacity of the educational institution to educate (Knowles & Associates, 1971).

Knowles et al. (1971) detailed the history of American cooperative education beginning with Herman Schneider who provided the leadership and vision to initiate the first American cooperative education program in engineering in 1906. The innovative concept of cooperative education grew slowly to 10 programs in engineering by 1919. In 1921, Antioch College offered the first cooperative education program in liberal arts.

By 1953 only 43 cooperative education programs were in operation. In 1960, 71 institutions, including 10 two-year colleges, had established cooperative education programs.

By 1969, 127 cooperative education programs had been established (Brown and Wilson, 1975). While the innovative leadership of Dean Schneider and others had firmly established the concept of cooperative education in American higher education, cooperative education was challenged by many changes in education and American society during the years when it was in the process of developing. Wars, recessions, and a world-wide depression affected the growth of cooperative education until 1957 when a number of conferences subsequently resulted in the formation of the National Commission for Cooperative Education in 1962 (Knowles et al. 1971).

As a result of increased federal funding, according to Black and Wilson (1976), cooperative education experienced a rapid growth in program numbers in the 1970's. The adoption of the concept of cooperative education as a viable method of education by American higher education is evidenced by a growth of 811% from 127 programs in 1969 to 1,030 programs in 1976 (Stull, 1978).

Growth of cooperative education program numbers has meant that personnel have been employed to plan, implement, and operate their respective cooperative education programs. Each new cooperative education program has a director whose job is to provide the leadership for a new educational program that may ultimately affect the entire institution's curriculum.

Federal funding, according to Wilson, Brown, Bork and Black (1975), was the primary motivator which encouraged new cooperative education

development. Institutions which demonstrated a budgetary commitment were more likely to receive grants. Wilson et al, (1975) reported that the reduction in expansion of new programs was a result of a lack of financial resources which also influenced an increased incidence of program failure. At the same time there was an estimated increase of 25% in student participation in existing cooperative education programs, as reported by these same authors.

The programs that are experiencing increased student participation today are the result of some unknown combination of institutional and human factors that have produced sound cooperative education programs. The identification of success factors involving the styles of leadership utilized by directors, the factors influencing these styles, and the structural characteristics of each of the institution's organizations is the primary topic of this study.

Statement of the Problem

There is a lack of information on styles of leadership provided by cooperative education directors and institutional organizational characteristics which have contributed to the successful growth of cooperative education in American higher education organizations. The planning, implementation, and operation of a cooperative education program requires innovative management and administrative support (Henry, 1978; Way 1978).

Currently, over 900 cooperative education programs are being managed by directors with diversified backgrounds in a wide variety of organizational settings with differing program outcomes. In a national study, Stull (1978) reported that directors' educational fields of study vary widely:

A wide variety of higher education institutions have adopted the concept of cooperative education. Some of the differences include size; mission; public or private; single and multiple campuses; location; community; and nature of students, staff, and faculty. Wilson et al. (1975) reported institutional characteristics by many of the above noted differences which delineate the variety of organizations with cooperative education programs. Additionally, each institution has a unique organizational system affected by the institutional characteristics.

Cooperative education program evaluation data have been collected; but the data are primarily oriented toward qualitative outcomes of cooperative education programs (Hayes & Travis, 1976; Hill, 1974; Lauver & McNabb, 1975; Perloff & Sussna, 1978; Rowe, 1970; McKenna & Squires, 1977; Wilson, 1973). Quantitative program data have been collected primarily for descriptive reporting purposes. No studies were found which examined the relationship(s) between program characteristics and program effectiveness.

Statement of Purpose

The purpose of this study was to determine the relative contribution of the leadership styles of cooperative education directors and organization structural characteristics of the program and institution to cooperative education program outcomes.

The specific purposes of this study included:

1. To identify the leadership styles, as measured by the Leadership Opinion Questionnaire (LOQ), of directors of cooperative education programs at colleges and universities in the United States.

2. To measure selected institutional and cooperative education program organizational characteristics which may affect cooperative education program outcomes.
3. To measure selected quantified cooperative education program outcomes.
4. To determine if relationships exist between director's leadership style and characteristics of the program and institution's organizational structure.
5. To describe the differences in cooperative education directors' leadership styles between two-year and four-year institutions.
6. To describe any differences which may exist among the six geographic regions in the United States (Appendix A) and type of institution in terms of director's leadership style and organizational structural characteristics on program outcomes.
7. To identify the strength of relationship among dimensions of director's leadership style and organizational structural characteristics, to selected cooperative education program outcomes.

As a result of the purposes of this study, a set of null hypotheses were formulated and tested:

1. There are no relationships among cooperative education program outcomes as influenced by the leadership style of the director or the structural characteristics of the organization.
2. There is no difference among the six geographic regions in the United States (Appendix A) in terms of the leadership style of the director and the structural characteristics of the organization.

3. There is no difference between two-year and four-year institutions in terms of the leadership style of the director and the structural characteristics of the organization.

Importance of the Study

Relationships which may exist between the perceived leadership styles of cooperative education directors and characteristics of the organization within which the directors manage their respective programs were identified in this study. The feasibility of this study was approached from two perspectives: management theory and cooperative education practice as identified in the literature.

A review of management theory relative to organizations and leadership styles suggests that relationships exist and have an effect on productivity in business and educational settings (Ballard, 1979; Fahy, 1972; House & Baetz, 1979; Hyatt, 1972; Jago & Vroom, 1975; Loudermilk, 1979; Manning, 1972; McCall & Lombardo, 1978; and Oliver, 1979).

A critical review of organizational structure and performance (Dalton, Todor, Spendolini, Fielding, & Porter; 1980) suggested the relationships between organizational variables and performance is perhaps the most critical variable in both the public and private sector. These reviewers suggested however, that this aspect has been largely ignored. Further, the aforementioned review evaluated the value of research studies in terms of "hard" performance criteria which is primarily quantitative in nature and concluded that the use of "hard" criteria measures tended to improve reported relationships.

Empirical studies on leadership have produced conflicting findings (House & Baetz, 1979). Some studies reveal that specific leadership styles interact with the organizational environment to affect relevant outcomes. Other studies show that organizational structure and subordinates performance affect leader behavior. The conflicting findings suggest that leadership has an effect under some conditions and not under others and suggests that there is an interaction between leaders and organizations that produces variations in outcomes in varying situations.

The body of knowledge in management theory according to James and Jones (1976) supports the feasibility of investigating the relationships that are pertinent to identifying factors in leadership styles and organizational characteristics which affect cooperative education program effectiveness.

A comprehensive review of cooperative education literature, including a computer search of ERIC, Psychological Abstracts, Dissertation Abstracts International, and Management Concepts Inc., yielded no studies of leadership, organization, and cooperative education. In a telephone interview Dr. James W. Wilson (1979), director of research at Northeastern University, confirmed the lack of research in leadership and organization theory as it relates to cooperative education.

Speculating on the future of cooperative education, Sharp and Lewis (1972) determined that research is needed, not only on the effects co-op has on earnings, college grades, career choice, etc., but also on what components and configurations of cooperative education programs are apparently responsible for those effects. This study is designed to investigate the leadership styles and organizational configurations which

may be responsible for selected program outcomes. Leadership and organization structure affect program outcomes and have implications for development of training programs.

Training is one of the more important functions of manpower management. Title VIII of the Higher Education Act of 1968 (as amended) provides funding for leadership training programs in the field of cooperative education for more than 2,000 persons per year. There is little evidence that such training programs result in effective program outcomes other than program growth (Miller, 1978). Improving program outcomes must begin with the empirical findings of focused research. In a research study of the roles of cooperative education directors, Stull (1978) recommended that, "Further research should be conducted to determine if style or pattern of co-op program operation has any overall effect on program viability and effectiveness" (Pg. 68).

By exploring the effects of leadership and organization structure on cooperative education program outcomes, cooperative education institutions and program directors may be better able to plan for the content of leadership training sessions.

The identification of numerous areas for further research related to management theory and effective cooperative education program operation should provide the cooperative education academic community with valuable material for future expansion of knowledge in the field. Moreover, the relative effectiveness of the research design should provide researchers and individual institutions with techniques that can be applied to evaluation of cooperative education programs and directors.

Also, the successful leadership styles that are identified in this study should serve as a guide for future recruitment and selection of directors.

This study was warranted because of the apparent lack of research, the potential value of the findings, and the feasibility of such a study supported by management theory. It is reasonable to conclude that specific research about the relationships between cooperative education directors' leadership styles, their organizational characteristics, and program outcomes in the form of quantitative data provide empirical evidence that will be useful to the cooperative education community and direction for further research.

Scope of the Study

The target population was all cooperative education directors at two-year and four-year colleges and universities in the United States. The sampling frame was the most current mailing list generated by the research department of Northeastern University. The current mailing list as of June, 1980, consisted of 397 two-year, and 505 four-year institutions of higher education that have operating cooperative education programs.

The sample consisted of 15 directors for each cell stratified by six regions (ref. Appendix A) and two types of institutions. The six regions in the United States provide a clear delineation of sections of the United States that are geographically related, as maintained by the U.S. Office of Education in the Bureau of Higher Education and defined by the American Council on Education (Deighton, 1971; Harris, 1979). The difference between two-year and four-year institutions in mission,

philosophy, and operation of programs (Knowles et al., 1971) warrant examination as two additional levels of stratification.

METHODS AND PROCEDURES

This section provides a description of the plan to accomplish the purposes of this study, as identified in the introductory section. The research procedures used in this study included the following: design of the study, questionnaire design, sample selection procedures, pilot study, data collection, and data analyses and statistical procedures.

Design of the Study

To accomplish this study, data needed to be measured for cooperative education directors' leadership styles, selected elements of organization structural characteristics, and quantified elements of program effectiveness. A sample of cooperative education directors of institutions of higher education in the United States was surveyed. A mail questionnaire served as the data-collecting instrument. The design of the study included an analysis of responses from surveyed cooperative education directors in an attempt to explain the relationships which have existed between particular aspects of cooperative education director's leadership style, organization structural characteristics, and quantified elements of program outcomes. In particular, the following hypotheses were tested:

Hypotheses

Hypothesis number one:

There are no relationships among cooperative education program outcomes as influenced by the leadership style of the director or the structural characteristics of the organization.

Hypothesis number two:

There is no difference among the six geographic regions in the United States (Appendix A) in terms of the leadership style of the director and the structural characteristics of the organization.

Hypothesis number three:

There is no difference between two-year and four-year institutions in terms of the leadership style of the director and the structural characteristics of the organization.

Questionnaire Design

A questionnaire was developed to accomplish the data gathering purposes of this study. The questionnaire was reviewed in June, 1980 by an expert panel of judges composed of members of the research committee of the Cooperative Education Association (Appendix B). The use of the expert panel was for review and establishment of face validity. All of the responses by the expert panel confirmed the integrity of the questionnaire construction and design. Several excellent suggestions for improved wording of items were incorporated in the questionnaire prior to the pilot study.

The questionnaire (Appendix C) was divided into four parts. Part one was constructed to ascertain background data for the cooperative education director. In part one, directors were asked to state the number of years they had served in their present position; their gender; age, grouped in five year increments; educational attainment; and years of cooperative education experience.

Part two of the questionnaire, which contains 32 items, was intended to gather data regarding institution and program organization

structural characteristics. Questions varied in format from checking the appropriate response, which provided measures of true dichotomies, through direct response to a Likert-type scale of 1 to 5 which provided continuous scores. The Likert-type scale contained five response categories; (1) Least Resembles to (5) Most Resembles. The 12 statements requiring the Likert-type scale response were constructed to demonstrate that the organizational characteristic being measured required varied response patterns. This design of statement construction was intended to allow the researcher to detect any inconsistencies in responses because of the pattern of item construction.

The questions in part two on organizational structure were based upon a review of literature in cooperative education (Knowles & Associates, 1971; Amundson & Young, 1976; Perloff & Sussna, 1978) and organizaton theory (Dalton, Todor, Spendolini, Fielding, & Porter, 1980; Bishop & George, 1971; Hickson, Hinnings, Pugh & Turner, 1963; Holdaway, Newberry, Hickson, & Heron, 1975; MacKenzie, 1978). From these sources questions were formulated to measure the degree of organizational structure in five dimensions.

Part three of the questionnaire, which contained 10 questions, was designed to obtain quantitative data for outcomes of program operation and organization structural characteristics. The questions which asked for numerical responses were based upon the individual program and institutional data. The responses provided continuous scores as measures of program outcomes. The variables selected and question formulation were based upon a review of cooperative education literature (Knowles & Associates, 1971; Lauver & McNabb, 1975; Swanson, 1975;

Lucas, 1975) and management literature (Dalton, Todor, Spendolini, Fielding, & Porter, 1980). From these sources questions were formulated to obtain selected quantitative measures of institutional and program outcomes. Consultation on item construction was sought from Dr. Moshe Hartman, professor of sociology and instructor of survey methods at Utah State University.

Part four of the questionnaire is the Leadership Opinion Questionnaire (LOQ). Because the LOQ dimensions are slightly larger than 8 1/2" X 11" format, the developed questionnaire was printed on comparable size paper and color to unify the overall appearance of the complete questionnaire.

The LOQ, Fleishman (1969), was selected for its self-report format, ability to discriminate between two leadership dimensions (consideration and initiating structure), and extensive applications. Reliability, validity, and normative data were available for the instrument (Appendix D). Intelligence and verbal ability were not variables which appear to affect the scores obtained by the LOQ as reported by Fleishman (1969).

Correlations with personality measures indicate that the LOQ measures something not measured by those personality measures. Norms are provided for educational supervisors. The median correlation between the two leadership dimensions is very near zero, independently confirmed by Kavanagh and Weissenberg (1972).

Variables to be Measured

Appendix E, questionnaire schedule, identifies the questionnaire items which related to the independent and dependent variables. The

design of the complete questionnaire was intended to measure seven independent variables and five dependent variables:

Independent Variables

Leadership Style Variables

1. Consideration, - (c), is the extent the leader has job relationships with subordinates of mutual trust, respect, and consideration for their feelings with two-way communication and a climate of good rapport.

2. Structure - (s), is the extent the leader defines and arranges his or her own role and those of subordinates toward goal attainment and the degree of actively directing group activities through planning, communicating information, scheduling, criticizing, and trying out new ideas.

Organization Structural Characteristics

3. Centralization or Decentralization - (c-d), is defined as the locus of authority, for decision-making in the cooperative education program, being centralized or decentralized within levels of hierarchy in the organization.

4. Configuration - (con), is the "shape of the role structure including subordinate ratios (span of control), height of department and administrative hierarchy, and proportion of coordinators and support personnel.

5. Placement within organization - (p-o) describes the functional authority location of the cooperative education program within the total organizational structure. Co-op can be assigned to the academic part of the organization or to a noninstructional part, such as placement or counseling.

6. Standardization - (std) is the degree to which procedures, (e.g. selection, placement, evaluation, control) are standardized.

7. Formalization - (frm) is the degree to which rules, procedures, instructions, and communications are written, and the degree to which roles are defined.

Dependent Variables

Quantified Cooperative Education Effectiveness Variables

1. The percent of total students who are co-op students (v).
2. The percent of faculty who are co-op coordinators (w).
3. The percent of total academic departments who have co-op students (x).
4. The cost per cooperative education student placement, as determined by the total placements and the cooperative education program budget (y).
5. The percent of total co-op employers making job offers to co-op graduates (z).

Sample Selection Procedures

The target population was all cooperative education directors at two-year and four-year colleges and universities in the United States. A computer-selected random sample was chosen from the sampling frame of 902 cooperative education directors from the most current mailing list, June 6, 1980, provided by Northeastern University Cooperative Education Research Center. The random sample consisted of a primary sample of 15 directors for each cell stratified by six regions (Appendix A) and two types of institutions (two-year and four-year). A total of 180 subjects comprised the sample population, which represented a 20% sample.

A secondary sample of 10 directors for each cell, stratified in the same manner as the primary sample, was simultaneously randomly drawn with the primary sample. This secondary sample provided a replacement source for directors drawn in the primary sample which were eliminated after a careful examination of the primary sample to assure representativeness of the sample. A total of six sample subjects were eliminated and replaced from random selection from the secondary sample for the following reasons;

1. Five institutions did not have a cooperative education director.

2. One was a member of the expert panel who assisted in the development of the questionnaire.

Follow-up procedures were pursued in an attempt to obtain a minimum of ten responses for each cell. For cells where ten responses could not be achieved, the secondary random sample was used to obtain an adequate number of responses. However, due to the relatively few number of two-year colleges in the Northeast region (Region 1), the region's entire two-year college population was surveyed, resulting in eight returned questionnaires.

The equalization of samples in each cell, rather than maintaining a proportion-of-population sample was intended to improve statistical analysis, as confirmed in consultation on March 13, 1980 with Dr. James Shaver, Associate Dean for Research at Utah State University. The variables measured should not be materially affected by the number of two-year and four-year institutions in each region.

Pilot Study

A field test of the questionnaire was conducted during July and August of 1980. The pilot study sample of 24 cooperative education directors (Appendix F) was drawn from the sampling frame planned for the study. Four directors were drawn from each region; two, two-year institutions and two, four-year institutions. The computer was used to randomly select the pilot study sample.

A cover letter, questionnaire, evaluation form and Request for Findings form were sent to each selected director on June 16, 1980. The cover letter (Appendix G) explained the purpose of the pilot study and asked directors to complete and return both the questionnaire and evaluation form in the enclosed, stamped, preaddressed envelope. The

evaluation form (Appendix H) was designed to determine ambiguities and weaknesses of the questionnaire as viewed by respondents. The mailing and follow-up procedures used for the pilot study were changed from those planned for the primary study. An extremely low return rate and two letters indicating personnel changes caused the researcher to make telephone calls in lieu of follow-up letters, to identify the extent of co-op director changes and absences during the summer term.

The telephone follow-up revealed that eight of the potential 24 respondents were not on campus during the summer term and were unavailable to respond to the pilot survey. In addition, there were three co-op director personnel changes. It was apparent that the timing of the pilot study during July and August resulted in a significant reduction of potential returns. This problem of director absences did not exist for the primary study which was conducted during the fall term of 1980.

The results of the returned pilot questionnaires and evaluation forms confirmed the feasibility of the proposed study. A return of 69%, or 11 out of a potential 16, were received. The questionnaires were completed by the respondents. The evaluation forms were positive, with some helpful suggestions for further improvement of the questionnaire. It is interesting to note that 100% of the pilot study returns included completed Request for Findings forms which indicated an interest in the findings of this study by the responding directors.

As a result of the experience with the pilot study, a return postcard was included with the notification letter to obtain corrected addresses and names of new cooperative education directors. This change was intended to improve the quality of the sampling frame.

Data Collection

Two weeks prior to the mailing of the questionnaire a letter was mailed (Appendix J) notifying each director of his/her selection in the sample. The letter explained the nature of the study and encouraged his/her participation in the study preparing him/her for the subsequent mailing of the survey.

The questionnaire used in this study was mailed on October 20, 1980. The mailing included a cover letter (Appendix K), a questionnaire (Appendix C), a request for findings form, and a stamped, preaddressed return envelope.

Each Leadership Opinion Questionnaire, purchased from Science Research Associates Inc., has an identification number. That number was recorded for each six-part identification number in a log maintained by the researcher. The returned questionnaires were carefully checked for agreement with the recorded identification numbers.

A follow-up of all nonrespondents was made two weeks following the questionnaire mailing. This follow-up consisted of a postcard with a message encouraging response participation (Appendix L).

A second follow-up of nonrespondents was conducted 10 days following the postcards. This follow-up consisted of a second cover letter (Appendix M), questionnaire, request for findings form, and a stamped, preaddressed return envelope.

Two weeks following the second follow-up mailing, telephone calls to each of the nonrespondents were initiated to encourage and confirm participation. Address corrections and requests for another questionnaire were sent to directors who requested the material during the phone conversation.

A detailed explanation of the various components planned for the data collection procedure follows.

Mailing Labels

Computer-generated adhesive-backed mailing labels were generated for each subject in the sample. Five duplicate sets of labels were produced. Each label contained the subject's identification number, name, title, and address. A separate set of mailing labels were prepared for the Request for Findings from the forms returned by respondents.

In cases where address changes were necessary after the computer-generated labels, new adhesive-backed labels were typed and utilized for subsequent mailings. Address corrections were obtained by notations on returned questionnaires and by the telephone follow-up.

Notification and Cover Letters

The letters for this study were typed using word processing equipment on Department of Business Education and Office Administration, Utah State University, letterhead stationery. The study cover letters were signed by the researcher and the research consultant. The names, titles, and addresses of the cooperative education directors comprising the sample were typed on each letter.

The cover letter explained the purpose of the study and the importance of each director's participation in the study and an offer of a copy of the final report. As each director's completed questionnaire was received, a letter of acknowledgement and appreciation was sent.

Questionnaires

Questionnaires were type-set and organized in such a fashion as to be a single-folded sheet presenting four sides containing parts one to three. The questionnaire was then reproduced by a commercial printing firm on paper of a size and color compatible with the Leadership Opinion Questionnaire. The LOQ was then attached to the printed questionnaire by staples to present a uniformly designed questionnaire in a "booklet" format.

Request for Findings Form

As a service to those who participated in this study, copies of the findings and conclusions of this study were made available. A copy of the Request for Findings form was enclosed with the mailings to the pilot study, primary and follow-up surveys. A total of 108 participants, or 82%, desired to receive a copy of the findings by returning the Request for Findings form to the researcher. When a summary of the findings was prepared, copies were sent to those who returned the request form. The Request for Findings form was the same for all mailings.

Accounting Procedures

A record of each individual chosen for the study was maintained. The maintenance log utilized the mailing labels in numerical order by identification number. The maintenance log was organized in such a manner as to allow region subtotals as well as complete sampling totals for each category. Space was allocated under each label for address corrections. When completed questionnaires were received, the identification numbers on the questionnaire and return envelope were compared

for consistency and recorded in the log. Each of the responding subjects mailing labels were then removed from the appropriate mailing label list(s) to prevent any follow-up mailings to be inadvertently sent to respondents. A systematic and careful follow-up procedure was pursued to insure maximum return of the questionnaires, maintenance of the integrity of the data, and confidentiality of the respondents.

Data Analyses and Statistical Procedures

The returned questionnaires were maintained in numerical order to facilitate data entry to a computer disk and order the records by region and respondent. A coding sheet was prepared for the questionnaire responses to parts one through three of the questionnaire and leadership styles summary data. The Leadership Opinion Questionnaire was hand-processed by the research consultant according to the scoring instructions of the LOQ Manual. A total of five LOQ's had one to four missing responses out of a total of forty. An average score was assigned to the missing responses as follows: 1) If the missing response was a consideration variable question, the average of the consideration variable scores was used to replace the missing item score. 2) If the missing response was an initiating structure variable question, the average of the initiating structure variable scores was used to replace the missing item score. Summary totals were recorded after part three of the questionnaire in spaces designed for the leadership style data. The printed questionnaire then contained all of the data necessary for data entry to a computer disk. After data entry, a careful inspection of the data record was examined to verify the accuracy of the data entry procedure.

The resulting data deck was then processed through various SPSS programs for statistical analysis performed on either the Burroughs B6800 computer at Utah State University or the DEC 2020 computer at Utah Technical College at Salt Lake. In addition, a Texas Instruments electronic programmable calculator MBA and nonprogrammable Business Analyst II was used when analyzing the data produced by the computer.

The descriptive, inferential, and correlational statistical analyses used are indicated below. Consultation was sought and used in making statistical analyses decisions, and in interpreting and reporting the results.

Statistical Techniques

The following statistical techniques were used to analyze the data. These techniques are presented in order of the listing of the purposes and hypotheses of the study:

Purpose	Statistical Technique(s)
1.Assess leadership styles.	Descriptive statistics, using range, mean, and standard deviation displayed by frequency distribution charts.
2.Organization structure.	Descriptive statistics, using range, mean, and standard deviation displayed by frequency distribution charts. Factor analysis to identify item response pattern with Cronbach's Alpha reliability test to establish item reliability.
3.Quantified program outcomes.	Descriptive statistics, using range, mean, and standard deviation. Factor analysis to identify item response pattern with Cronbach's Alpha reliability test to establish item reliability.
4.Leadership styles and organization structure relationships.	Canonical correlation analysis to test the strength of relationship between leadership style and organizational structure variables.

5. Leadership styles differences by type of institution.	T-test, to test for variance to test for differences between two-year and four-year directors in terms of the two leadership style variables.
6. Leadership styles and organizational structure differences by region and type of institution.	Two-way analysis of variance to test the differences among the six regions and between type of institution in terms of director's leadership style and organization structural variables.
7. Strength of relationship among leadership styles and organization structure on program outcomes.	Canonical correlation analysis to test the strength of relationship between director's leadership style and organizational structure on measured cooperative education program outcomes.

Hypothesis

1. Relationship between leadership styles and organization structure.	Canonical analysis to test the strength of relationship and differing contributions of leadership and organizational scales on program outcomes.
2. Difference among regions.	Analysis of variance to test the differences among the six regions in terms of the director's leadership style and organization structural characteristics.
3. Difference between two-year and four-year institutions	Analysis of variance to test the differences between two-year and four-year director's leadership style and organization structural characteristics

A factor analysis procedure was used to determine the multiple items on the questionnaire which related to each of the five organization structural variables. (See Appendix E). This statistical technique had a two-fold purpose: (1) to confirm that the questionnaire items developed to measure specific organizational variables (scales) have a sufficient amount of common variance to load on the related organizational factors (Harman, 1967), and (2) to yield a set of factor scores which have maximum predictability in terms of the canonical correlation on the organizational variables (Weiss, 1976).

A test of internal consistency using Cronbach's Alpha coefficient, as discussed by Cronbach (1970), compared the within-scale item correlations to the between-scale item correlations. This test of reliability provided evidence of the multidimensionality of the variables (scales) comprising organization structure and quantified program outcomes.

After the response patterns were confirmed and tested for reliability, the use of canonical correlation to identify any relationships which may exist between leadership styles, organization structure, and co-op program outcomes is appropriate for analyzing the set of multiple independent variables relationship to each other and to the set of multiple dependent variables (Dunham & Kravetz, 1975; Weiss, 1976).

The parametric inferential technique of analysis of variance was used to determine whether the mean scores from director responses by two-year and four-year institutions differed significantly from each other, and whether there existed any statistical interaction between two-year and four-year institutions, and the six regions in the United States (Borg & Gall, 1979). A criterion of .05 probability of F-ratios was used for statistically significant differences. When significant differences were found, the Tukey multiple range test was applied to identify where differences exist between type of colleges and/or region(s).

FINDINGS.

The overall goal of this study was to analyze the relationship between cooperative education director's leadership style, selected organizational characteristics, and selected results of program operations.

The purpose of this section is to present the findings of the statistical analyse of the data collected in this study. The section is organized as follows:

a- Number of Questionnaires Returned
b- Background Characteristics of Respondents
c- Questionnaire Reliability
d- Purpose 1
e- Purpose 2
f- Purpose 3
g- Purpose 4
h- Purpose 5
i- Purpose 6
j- Purpose 7
k- Hypothesis 1
l- Hypothesis 2
m- Hypothesis 3
n- Exploratory Analysis

Number of Questionnaires Returned

One hundred and eighty questionnaires were mailed to directors of cooperative education programs in institutions of higher education in

the United States. The random sample of 180 from a sampling frame of 902 represented a 20% sample. Included in the questionnaires returned were five who reported that they had discontinued their cooperative education programs, one of which was discontinued because the college had ceased operations. Those five colleges were subsequently dropped from the sample.

The five deletions in the original sample of 180 cooperative education programs resulted in a final sample of 175 cooperative education programs surveyed. A total of 146 questionnaires were returned. Included within the returns were seven who returned blank questionnaires and who refused to participate in the study. Thus, there were 139 usable questionnaires, representing a return of 79.4%.

Table 1 displays the original sample and returns for two-year and four-year colleges in the six geographic regions surveyed.

Background Characteristics of Respondents

Part I (items 1-6, 9, 10) of the questionnaire was designed to obtain background information about the responding directors. Item nine asked for the director's formal title and responses were used to determine the status of the respondent. Table 2 displays the classes of formal titles reported by respondents. Item ten asked for the director's immediate superior's formal title and responses were used to confirm the reported organizational placement of the cooperative education program. Table 3 displays the classes of formal titles of directors' immediate superiors as reported by responding directors.

Table 1
Questionnaire Returns

Region	Number of Directors Surveyeda	Number of Returns	Percentage of Returns
Four-year Colleges and Universities			
1. (New England)	14	13	92.8
2. (Middle States)	15	13	86.7
3. (Southern)	14	10	71.4
4. (North Central)	15	10	66.7
5. (Northwest)	15	10	66.7
6. (Western)	15	13	86.7
Subtotals	88	69	78.4
Two-year Colleges			
1. (New England)	15	8	53.3
2. (Middle States)	15	12	80.0
3. (Southern)	15	15	100.0
4. (North Central)	14	12	85.7
5. (Northwest)	15	13	86.7
6. (Western)	13	10	76.9
Subtotals	87	70	80.5
Totals	175	139	79.4

a. Less than 15 are colleges dropped from sample due to discontinuance of the cooperative education program.

Table 2
Classes of Formal Title of Respondents

Formal Title	Frequency	Relative Frequency (Percent)
1. Director of Cooperative Education	72	51.8
2. Director of Experiential Ed./Field Exp./ Internship/Community Placement	8	5.8
3. Coordinator of Cooperative Education	24	17.3
4. Director of Coop. Ed. + other activities	8	5.8
5. Director/Chairman/Head of: career planning/services/applied studies/ occupational programs/community services	12	8.6
6. Dean/Chairman/Head (No program following formal title)	5	3.5
7. Titles not identifying cooperative Education	10	7.2
Total	139	100.0

Table 3
Classes of Reported Formal Title of Respondent's Immediate Superior

Class of Formal Title	Frequency	Relative Frequency (Percent)
1. President	4	2.9
2. Vice President/Provost	39	28.1
3. Dean/Associate Dean/Assistant Dean	64	46.0
4. Director	22	15.8
5. Chairman/Head	8	5.8
Total	139	100.0

Years in Current Position

Table 4 indicates how long responding directors had held their current position. The results show 53% of the cooperative education directors have held their current positions from 0-3 years, while 38.7% have held their current position for five or more years. The mean years-in-position of all respondents was five years ($\bar{x}$=4.80) with a standard deviation of 3.7 years (s=3.72). Overall, there appeared to be a broad distribution of years-in-position with 65 respondents indicating four or more years in position as co-op director.

Table 4
Years in Current Position as Co-op Director

Years	Absolute Frequency	Relative Frequency (Percent)	Cummulative Frequency (Percent)
0	12	8.6	8.6
1	24	17.3	25.9
2	21	15.1	41.0
3	17	12.2	53.2
4	12	8.6	61.8
5	12	8.6	70.4
6	8	5.8	76.2
7	4	2.9	79.1
8	5	3.6	82.7
9	5	3.6	86.3
10	7	5.0	91.3
11	6	4.3	95.6
12	1	.7	96.3
14	2	1.4	97.7
15	2	1.4	99.2
17	1	.7	100.0
Totals	139	100.0	

Directors' Gender

The majority (74.8%) of two-year and four-year directors were male; 25.2% were female. Table 5 displays the distribution of the gender of cooperative education director respondents.

Table 5
Gender of Co-op Directors

Gender	Absolute Frequency	Relative Frequency
Female	35	25.2
Male	104	74.8
Total	139	100.0

Directors' Age

Table 6 reveals that 137 of the 139 responding directors were 25 years of age or older. The frequency group with the largest number of respondents was in the 30-34 year age group. The mean and median age group was in the 35-39 year age group, with a standard deviation of 10.05 years.

Table 6
Age of Co-op Directors

Age of Director	Absolute Frequency	Relative Frequency (Percent)	Cummulative Frequency (Percent)
24 or under	1	.7	.7
25-29	10	7.2	7.9
30-34	32	23.0	30.9
35-39	23	16.5	47.4
40-44	28	20.1	67.5
45-49	10	7.2	74.7
50-54	13	9.4	84.1
55-59	13	9.4	93.5
60 or over	8	5.6	99.2
Missing	1	.7	100.0
Total	139	100.0	

Highest Educational Degree Attained by Directors

Table 7 displays the highest educational degree attained by responding cooperative education directors. The majority (59.7%) held master's degrees. Fully 80% of the respondents held a master's degree or higher. The two respondents reporting "other" included notations of an educational specialist's degree.

Table 7
Highest Educational Degree of Co-op Directors

Educational Degree	Absolute Frequency	Relative Frequency (Percent)	Cummulative Frequency (Percent)
Less than Bachelor's Degree	2	1.4	.7
Bachelor's Degree	26	18.7	19.4
Master's Degree	83	59.7	79.1
Doctorate Degree	26	18.7	97.7
Other	2	1.4	100.0
Total	139	100.0	

Directors' Years of Experience in Cooperative Education

Table 8 identifies the years of experience in cooperative education by the responding directors. The mean number of years of experience in co-op was 6 ($\bar{x}$=6.30), with a standard deviation of 4.5 years (s=4.46). There was a wide distribution of number of years experience in cooperative education. While approximately half of the respondents had five or less years experience, the other half had six or more years of experience in cooperative education, with one respondent having 25 years of experience in co-op.

Table 8
Years of Experience in Cooperative Education

Years of Experience	Absolute Frequency	Relative Frequency (Percent)	Cummulative Frequency (Percent)
0	7	5.0	5.0
1	10	7.2	12.2
2	21	15.1	27.3
3	10	7.2	34.5
4	12	8.6	43.1
5	14	10.1	53.2
6	16	11.5	64.7
7	8	5.6	70.3
8	6	4.3	74.6
9	9	6.5	81.1
10	7	5.0	86.1
11	5	3.6	89.7
14	1	.7	90,4
15	7	5.0	95.4
16	3	2.2	97.7
17	2	1.4	99.2
25	1	.7	100.0
Total	139	100.0	

Type of Institution

Table 9 identifies the distribution of public or private, two-year and four-year institutions of higher education in the United States from which the co-op directors responded. Two-year public colleges were predominant, representing 48.9% of those sampled; whereas, 1.4% of the two-year colleges were private institutions. Relatively more private four-year colleges (18.7%) were represented than private two-year colleges.

Table 9
Type of Institution of Co-op Directors

Type of College	Absolute Frequency	Relative Frequency (Percent)	Cummulative Frequency (Percent)
Two-year Public College	68	48.9	48.9
Two-year Private College	2	1.4	50.3
Four-year Public College	43	30.9	81.2
Four-year Private College	26	18.7	100.0
Total	139	100.0	

Questionnaire Reliability

All of the returned questionnaires were examined for response inconsistency. As described in section III, the twelve Likert-type statements in section II of the questionnaire were designed for varied response patterns. All of the respondents appeared to respond appropriately to each of the Likert-type statements.

A factor analysis procedure was applied to the responses to the Likert-type questions, items 11-22, and to items 25 and 29-31, which also had five response categories. The purpose of this statistical technique was to search for underlying commonalities in the responses.

The Varimax rotation procedure was selected to maximize the variance of the squared loadings for each column. Principal factoring without iteration (PA1) was selected to extract any sets of highly correlated variables that may be present and not to impose any prior

assumptions about the general structure of the variables. Missing data was not replaced by the variable mean for computation of factor scores. The eigenvalue pattern was examined to determine points of inflection, which could be interpreted to determine the number of factors to be generated in future iterations of the factor analysis procedure. Points of inflection existed in two places: six factors (eigenvalue .97180) and four factors (eigenvalue 1.33112). Factor analysis procedures were applied, using all raw data, and forcing a six factor solution and a four factor solution.

To aid in the interpretation of the data, the factor loading patterns were ortnogonally rotated (varimax procedure). Items which cross loaded on two or more factors were difficult to interpret. Therefore, if an item had a factor loading of >|.3| on two or more factors, the item was deleted. However, if the item loaded considerably higher on one factor and had a minimal loading of >|.5| on the factor, the item was retained to assure that no item would be removed that might contribute to an understanding of the dimensionality sought through the factor analysis procedure. The process was repeated for a total of five iterations of a six factor solution and a four factor solution..

On the fifth iteration, it became apparent that the six factor solution provided a solution which did not have items which cross loaded on two or more factors. A seventh factor analysis was performed without forcing the number of factors based on the eigenvalue pattern. The resulting solution confirmed the stability of a six factors solution, using ten items. The resulting six factors had one, three item factor; two, two item factors; and three one item factors.

A test of reliability was performed on the factors with two or more items, using Chronbach's Alpna, to determine the internal consistency of the items comprising the solutions for three of the multiple item factors as discussed by Cronbach (1970). An Alpha coefficient of .5 or higher, as suggested by Nunnally (1978), was used for the criteria of determining the reliability of the multiple item factors.

The resulting test of reliability yielded Alpha coefficients as shown in Table 10.

Table 10
Factor Alpha Coefficients

Factor	Alpha Coefficients
1	.29747*
2	.84650
3	.85148

*Coefficient below criterion of .5

Two of the three derived factor scales reached acceptable levels of internal consistency. Table 11 shows the factor scale number, the generic title assigned each factor scale by the researcher, and the questionnaire items comprising each of the two-factor scales, and the factor loading for each item. Also included in Table 11 are the single item factors generated by the factor analysis procedure.

Item 27, administrative hierarchy, was compared to item ten, the formal title of the director's immediate superior, for response consistency. All of the responses were the same for item ten and the second level in the administrative hierarchy.

Table 11
Factor Scales, Questionnaire Items, Factor Loadings, and Factor and Item Means

Questionnaire Item No.	Factor Loading	Factor and Item Mean
Factor Scale 2. Decision-making authority		
29.	.93	2.31
30.	.92	2.34
31.	.75	2.48
		2.12
Factor Scale 3. Form task instructions are communicated		
19.	.90	2.85
20.	.89	2.82
		2.88
Factor Scale 4. Written learning objectives		
21.	1.00	3.73
Factor Scale 5. Coordinator's activities scheduled by administration		
17.	.98	1.53
Factor Scale 6. Coordinator's schedule own activies		
15.	.98	2.81

The formal title of the director's immediate superior was then interpreted by the researcher as belonging to the academic (instructional) part of the institution's organization or as a part of the non-academic part of the organization. The titles were then given to Mr. Michael deAyora, Cooperative Education Director of Merced College (a non-participant in this study) to be similarly rated. A comparison of the two ratings, as suggested by Borg and Gall (1979) resulted in an interrater coefficient of 94.34%. The proportion of academic -vs- non-academic titles were 76.26% (Academic) and 23.74% (non-academic) which compared closely to directors' responses to item eight, the location of

the cooperative education program within the academic (instructional) part of the institution's organization. The reported proportion of program location was 81.9% academic and 18.1% non-academic.

The leadership styles of consideration and initiating structure were determined to be statistically independent by correlations between the two constructs by Fleishman (1969). A Pearson-product moment correlation was applied to the leadership style scores of the responding cooperative education directors. An r=-.06 resulted and was found not to be significant at the .05 level.

Unreliable dependent variables were encountered on two of the five dependent variables:

(1) There were 53% of the responding directors who reported that no full-time faculty were involved as part-time co-op coordinators. As a program outcome measure of faculty involvement, the large proportion of programs which reported non-involvement was considered by the researcher as an unreliable measure of program effectiveness for further analysis. Particularly, because there exist other ways in which full-time faculty may be involved in the cooperative education program, such as; advising, credit certification, and advisory committee membership.

(2) There were 46% of the responding directors who did not respond to the two items comprising the variable; Percent of co-op employers making job offers to co-op graduates. The 95% confidence interval was from 26.86% to 118.48%. There were nine directors who responded such that the percentage of employers making job offers exceeded 100%, with one as high as

1800%. Those cases exceeding 100% were considered invalid. The significant amount of missing data in combination with the extreme confidence interval of those who did respond was considered by the researcher as being unreliable for further analysis as a measure of program effectiveness.

Purpose 1: To identify the Leadership Styles, as measured by the Leadership Opinion Questionnaire (LOQ), of Directors of Cooperative Education Programs at Colleges and Universities in the United States.

The responses to the Leadership Opinion Questionnaire (Fleishman, 1969) provided scores for two leadership style dimensions of (1) consideration and (2) initiating structure. Table 12 displays the raw scores for both leadership dimensions. The mean consideration percentile score was 72 ($\bar{x}$=72.02), with a standard deviation of 7 (s=6.80). The mean initiating structure percentile score was 54 ($\bar{x}$=54.07), with a standard deviation of 9 (s=9.31).

The distribution of the consideration raw scores had a slight positive skewness of .17. The kurtosis was -.28. The mode = 55, mean ($\bar{x}$=57.50), and median (m=57.54) were tightly grouped.

The distribution of the Initiating Structure raw scores had a slight positive skewness of .11. The kurtosis was 1.27. The mode = 41, mean ($\bar{x}$=43.04), and median (m=42.65) were tightly grouped.

Purpose 2: To Measure Selected Institutional and Cooperative Education Program Organizational Characteristics which may affect Cooperative Education Program Outcomes.

The total number of employees supervised by the responding directors (questionnaire item 7) varied from none (0) to 79. Table 13 displays the number of employees supervised, the frequency of

Table 12
Leadership Opinion Questionnaire Scores For
Cooperative Education Directors

Raw Score Consideration	Frequency	Raw Score Initiating Structure	Frequency
46	3	19	1
47	1	25	1
48	2	26	1
49	4	28	1
50	4	29	1
51	7	31	1
52	3	32	1
53	10	33	4
54	6	34	2
55	13	35	4
56	9	36	3
57	7	37	6
58	13	38	8
59	9	49	8
60	7	40	5
61	9	41	13
62	5	42	8
63	6	43	10
64	8	44	9
65	5	45	7
66	1	46	5
67	1	47	2
69	2	48	5
70	3	49	7
71	1	50	8
		51	3
		52	5
		53	2
		55	2
		56	2
		58	1
		60	1
		63	1
		68	1
Total	139		139

occurrence, and the relative and cummulative frequency of occurence. The mean number of employees supervised was 12 ($\bar{x}$=12.18), with a standard deviation of 16 (s=16.64). The distribution was positively skewed.

Questionnaire items 7a through 7f requested responding directors to report the type of personnel supervised, as reported in item 7. Table 14 displays the questionnaire item number, the question and the resultant range, mean, and standard deviation.

The placement of the cooperative education program within the institution's organization was requested in dichotomous form. The responses to this item (8) on the questionnaire was confirmed by an examination of the title of the director's immediate superior requested in item 9. Also, the written responses to the organizational hierarchy in item 27 were examined and confirmed the response to organizational placement response.

There were 113 directors, (81.9%) who responded that the cooperative education program was located in the instructional (academic) organization. A total of 25 directors (18.1%) responded that cooperative education was located in other than the instructional (academic) organization. There was one missing response.

The questions in the Likert-type section of the questionnaire (item 11-22) included questions on centralization, standardization, and formalization. The institutional and program structural characteristics, as measured by the questionnaire which had varying response patterns, were recoded to develop consistency in the Likert scale values. Table 15 displays each questionnaire item, the mean responses to each item, and the corresponding standard deviation.

Table 13
Number of Employees Supervised

Number of Employees	Frequency	Relative Frequency (Percent)	Cummulative Frequency (Percent)
0	13	9.4	9.4
1	22	15.8	25.2
2	11	7.9	33.1
3	13	9.4	42.5
4	10	7.2	49.7
5	9	6.5	56.2
6	4	2.9	59.1
7	1	.7	59.8
8	3	2.2	62.0
9	6	4.3	66.3
10	7	5.0	71.3
11	3	2.2	73.5
12	1	.7	74.2
13	1	.7	74.9
14	4	2.9	77.8
16	1	.7	78.5
18	3	2.2	80.7
19	1	.7	81.4
20	2	1.5	82.9
21	1	.7	83.6
22	1	.7	84.3
23	2	1.5	85.8
25	1	.7	86.5
26	2	1.5	88.0
28	1	.7	88.7
30	1	.7	89.4
31	1	.7	90.1
35	1	.7	90.8
36	1	.7	91.5
37	1	.7	92.2
40	1	.7	92.9
42	1	.7	93.6
43	1	.7	94.3
44	1	.7	95.0
45	1	.7	95.7
49	1	.7	96.4
54	1	.7	97.1
55	1	.7	97.8
68	2	1.5	99.3
79	1	.7	100.0
Totals	139	100.0	

Table 14
Type of Employees Supervised by the Responding Directors

Item Number	Question	Range	Mean	Standard Deviation	Median	Mode
7a	How many full time cooperative education coordinators reported directly to you?	0-16	0.98	1.69	1.47	1.00
7b	How many part-time cooperative education coordinators (that are instructional faculty employed at the college full-time) reported directly to you?	0-42	5.87	8.53	7.13	1.00
7c	How many full-time administrative assistants did you directly supervise?	0-4	0.33	0.49	1.29	1.00
7d	How many full-time cooperative education clerical/secretarial personnel reported directly to you?	0-5	0.94	0.79	1.15	1.00
7e	How many full-time other employees reported directly to you?	0-55	2.20	6.84	3.00	1.00
7f	How many part-time other employees reported directly to you?	0-45	1.58	4.98	1.63	1.00

Table 15
Directors' Responses to Likert-Type Questionnaire Items, Their Means and Standard Deviations

1=Least Resembles, 5=Most Resembles

Questionnaire Item Number	Question	Mean	Standard Deviation
11	To obtain information about cooperative education, students must go to a single cooperative education office.	3.79	1.48
12	Instructional (Academic) departments award cooperative education credit.	4.01	1.62
13	All cooperative education coordinator offices are located in various academic department offices.	2.76	1.84
14	Student work placements are made by the cooperative education director only.	2.78	1.61
15	Coordinator's activities are solely scheduled by each individual coordinator.	3.19	1.45
16	Coordinator's activites are scheduled by collaborative effort between each individual coordinator and the co-op director.	3.32	1.64
17	Coordinator's activities are scheduled by the institution's administration.	1.53	1.04
18	Program evaluation methods and frequency are not standardized institutionally, but depend upon the experience and motivation of co-op personnel.	3.33	1.63
19	Task instructions to co-op personnel take the form of oral communications.	3.18	1.33
20	Task instructions to co-op personnel usually take the form of written documents.	2.88	1.28

Table 15 Continued

21	Learning objectives are written on standardized forms and copies are held by the director, coordinator, student, and employer.	3.73	1.53
22	Cooperative education forms, and/or brochures, and/or manuals are normally distributed to co-op and institutional personnel, co-op students, and employers.	4.45	.92

Formalization questions (item 23 and 24) were in dichotomous form. Possible responses were "yes" and "no". Responses of "unknown" and "not applicable" were treated as missing data.

Questionnaire item 23 asked, "Does your institution have an organizational chart?" Directors' responses were 113-yes (81.3%), 9-no (6.9%), with 17-unknown (12.2%).

Questionnaire item 24 asked, "Do most of the institutional personnel receive a copy of the written organizational chart, including revisions?" Directors' responses were 77-yes (55.4%), 46-no (33.1%), 15-not applicable (10.8%), and one missing response.

Formalization questionnaire (item 25) asked directors: "To what extent are there written job descriptions for co-op personnel?" The five response categories and percent responding were as follows:

1 - none (18%)

2 - Director only (19%)

3 - Director and full-time coordinators (6%)

4 - Director and all full-time personnel (17%)

5 - All full-time and part-time co-op personnel (40%)

The last formalization questionnaire item (26) asked directors: "Are there a written procedures, rules, and policies' manual for the operation of the co-op program?" Possible responses were coded 2-yes,

1-partially, 0-no. There were 88 (63.3%) of the directors who responded "yes," 33 (23.7%) responded "partially", and 17 (12.2%) responded "no." There was one missing response.

Questionnaire item 27 asked directors to identify, by title, each level (superior-subordinate relationship) of administration that existed between the responding director and the president of the institution. There were five who responded that they reported directly to the president (one level). The upper limit of the levels of hierarcy, was six, reported by three directors. The mode was three levels in the hierarchy with 54 directors responding. The mean was 3.2 ($\bar{x}$=3.24) with a standard deviation of one (s=1.00).

Item 28 of the questionnaire asked directors to identify, by title, each level (superior-subordinate relationship) of administration that existed between a cooperative education program director and a co-op coordinator. There were 43% who reported that the coordinator reported directly to the director (one level), 41% reported two levels, 14% reported three levels, 1% reported four levels, and 2% reported five levels.

The extent of decision-making authority was requested by three items (29, 30, 31) of the questionnaire. These questions were developed as part of the centralization structural variable. Table 16 displays each questionnaire item, the mean responses to each item, and the corresponding standard deviation.

Table 16
Directors' Responses to Decision-Making Questions, Their Means and Standard Deviations

Response Scale:
1 - No decision input
2 - Minor decision input
3 - Equal participation on decisions
4 - Major decision input
5 - Only I make the decisions

Questionnaire Item Number	Question	Mean	Standard Deviation
29	To what extent do you, as the cooperative education director, make decisions to hire personnel for your department?	3.66	1.08
30	To what extent do you, as the cooperative education director, make personnel assignments related to the operation of cooperative education?	3.52	1.14
31	To what extent do you, as the cooperative education director, make personnel assignments related to the operation of cooperative education?	3.88	1.09

Purpose 3: To measure selected quantified cooperative education program outcomes.

Part III of the questionnaire requested information relative to the operation of the cooperative education program during the 1979-1980 school year. Questionnaire items 32-41 requested respondents to report the actual number of persons, work stations or dollars.

The total student enrollment (head count) in the cooperative education program during the fall term of 1979 (item 32) was reported by 138 of the respondents. The co-op program enrollments ranged from one to 4,500. The mean program enrollment was 234 ($\bar{x}$=233.81), with a

standard deviation of 535 (s=535.26). The distribution was positively skewed, with a median of 72.5 and a mode of 25.

The total number of academic (instructional) departments, who had students enrolled in cooperative education (item 33), was reported by 132 of the respondents. The range was one to 108. The mean number of departments was 15 ($\bar{x}$=14.50), with a standard deviation of 15 (s=14.90). The distribution was positively skewed, with a median of 10.25 and a mode of five departments.

Questionnaire item 34 was in contrast to the number of students enrolled in cooperative education. Students working on cooperative work assignments can be different from the number of students enrolled in cooperative education. Some co-op students may be working, while others may be on campus during a term. Not all cooperative education programs enroll students because credit is not awarded. The total number of students working on cooperative education work assignments was reported by 137 responding directors. The range of working co-op students was seven to 4,251. The mean number of working co-op students was 344 ($\bar{x}$=343.51), with a standard deviation of 578 (s=577.90). The distribution was positively skewed, with a median of 125.0 and mode of 110.

Questionnaire item 35 requested the total budget amounts from all sources which was spent for the operation of the co-op program during the 1979-1980 fiscal year. There were 31 (22%) of the directors who did not respond. The co-op budget expended ranged from $2,000 to $1,000,000. The mean expenditure was $79,000 ($\bar{x}$=$79,078), with a standard deviation of $107,000 (s=$107,245). The distribution was positively skewed, with a median of $56,500 and a mode of $50,000.

The total number of job offers made to cooperative education graduates (item 36) was reported by 78 (56.1%) of the responding directors. Nine of the responses exceeded the number of co-op employers providing work stations during the previous school year. The number of co-op employers making job offers cannot exceed the number of co-op employers who provide work stations to co-op students. Therefore, those nine responses were considered invalid. Thus, 69 (49.6%) of the responses were considered valid. The range of responses varied from one to 653. For those who responded, the mean was 72 ($\bar{x}$=72.22), with a standard deviation of 116 (s=115.94). The distribution was positively skewed, with a median of 30 and a mode of five.

Questionnaire item 37 was intended to identify the total number of job openings provided by co-op employers for cooperative education students. There were 22 (15.8%) of the directors who did not respond. The range of job openings was from seven to 2,400. The mean number of job openings was 255 ($\bar{x}$=254.61), with a standard deviation of 386 (s=385.83). The distribution was positively skewed, with a median of 95.25 and a mode of 20.

The total number of academic (instructional) departments in the entire institution (item 38) was reported by 128 (92.1%) of the directors. The number of academic departments ranged from two to 185. The mean number of departments was 29 ($\bar{x}$=28.76), with a standard deviation of 26 (s=25.67). The distribution was positively skewed, with a median of 21.0 and a mode of seven.

The total number of full-time instructional faculty at the entire institution (item 39) was reported by 130 (93.5%) of the directors. The number of full-time faculty ranged from 15 to 2,200. The mean number of

full-time faculty was 238 ($\bar{x}$=238.30), with a standard deviation of 320 (s=319.86). The distribution was positively skewed with a median of 127.5 and a mode of 250.

Questionnaire item 40, requested the total number of part-time instructional faculty (not considered full-time employees by the institution). There were 114 (82%) of the directors who responded. The number of part-time faculty ranged from one to 1,200. The mean was 164 ($\bar{x}$=163.87), with a standard deviation of 208 (s=207.66). The distribution was positively skewed, with a median of 80.5 and a mode of 30.

The total student enrollment (head count) at the entire institution during the fall term of 1979 (item 41) was reported by 135 (97.1%) of the directors. The institutional enrollment ranged from 364 to 31,000. The mean enrollment was 7,066 ($\bar{x}$=7,066.38), with a standard deviation of 6,974 (s=6,974.20). The distribution was positively skewed, with a median of 4,800 and a mode of 1,500 students.

Table 17 provides a summary of the averages and standard deviation for the computed cooperative education outcome variables. The dependent variables were computed, using the questionnaire items described above.

The percent of cooperative education students enrolled was computed by dividing item 32 (total student enrollment in the cooperative education program) by item 41 (total student enrollment at the institution) multiplied by 100. The resulting percentage of cooperative education students enrolled varied from less than one percent to as high as 87%. The mean was 4% ($\bar{x}$=4.37), with a standard deviation of 10% (s=10.18). The distribution was positively skewed with a median of 2.13% and a mode of .33%. There were 135 (97%) valid cases.

Table 17
Summary of Averages and Standard Deviation for each Cooperative Education Program Outcome Measured

Description of Measure	Mean	Standard Deviation	Median	Mode
Total student enrollment in the co-op program, Fall, 1979	233.81	535.26	72.50	25
Total academic departments who had students enrolled in cooperative education.	14.50	14.90	10.25	5
Total students working on cooperative education work assignments.	343.51	477.90	125.00	110
Total budget, from all sources, spent for the operation of the co-op program during the 1979-1980 fiscal year.	$79,078	$107,245	$56,500	$50,000
Total job offers made to cooperative education graduates.	72.22	115.94	30.00	5
Total job openings provided by co-op employers for cooperative education students.	254.61	385.83	95.25	20
Total academic departments in the entire institution.	28.76	25.67	21.00	7
Total full-time instructional faculty at the entire institution.	163.87	207.66	80.50	30
Total student enrollment at the entire institution fall, 1979.	7,066.38	6,974.20	4,300	1,500

The percent of full-time faculty who are part-time cooperative education coordinators was computed by dividing item 7b (part-time co-op coordinators who were full-time instructional faculty) by item 39 (total number of full-time instructional faculty at the institution) multiplied by 100. The resulting percentage of part-time co-op coordinators who are instructional faculty ranged from zero percent to 58%. The mean was 9% ($\bar{x}$=9.41), with a standard deviation of 13% (s=13.33). The distribution was positively skewed with a median of 4.00% and a mode of .56%. There were 65 (47%) valid cases. This variable was considered unreliable for further analysis.

The percent of academic departments with cooperative education students was computed by dividing item 33 (total number of academic departments with co-op students) by item 38 (total number of academic departments at the entire institution). The percent of academic departments with co-op students ranged from 2% to 100%. The mean was 56% ($\bar{x}$=55.56), with a standard deviation of 30% (s=30.10). The distribution was positively skewed, with a median of 55.04% and a mode of 100%. There were 126 (91%) valid cases.

The cost per cooperative education student placement was computed by dividing item 35 (total cooperative eduation budget) divided by item 34 (total number of cooperative education students on work assignments). The cost per co-op placement ranged from $25.00 to $3,000.00. The mean was $511 ($\bar{x}$=$510.63), with a standard deviation of $574 (s=$573.54). The distribution was positively skewed, with a median of $282.00 and a mode of $333.33. There were 105 (76%) valid cases.

The percent of co-op employers making job offers to cooperative education graduates was computed by dividing item 36 (total number of

job offers made by co-op employers to co-op graduates) by item 37 (total number of work stations provided by co-op employers) multiplied by 100. The percent of job offers made by co-op employers to co-op graduates ranged from one to 100%. The mean was 46% ($\bar{x}$=46.31), with a standard deviation of 35% (s=35.31). The distribution was positively skewed with a median of 32.30%, and a mode of 100%. There were 78 (56%) who responded and 69 (50%) of the cases were valid. This variable was considered unreliable for further analysis.

Table 18 provides a summary of the averages and standard deviation for the computed cooperative education outcome variables.

Table 18
Summary of Averages and Standard Deviation for the Computed Cooperative Education Program Outcome Variables

Description of Variable	Mean	Standard Deviation	Median	Mode
1. The percent of cooperative education students enrolled.	4.37%	10.18%	2.13%	.33%
2. The percent of full-time faculty who are part-time cooperative education coordinators.*	9.41%	13.33%	4.00%	.56%
3. The percent of academic departments with cooperative education students.	55.56%	30.10%	55.04%	100%
4. The cost per cooperative education student placement.	$510.63	$573.54	$282.00	$333.33
5. The percent of co-op employers making job offers to cooperative education graduates.*	46.31%	35.31%	32.30%	100%

*Considered unreliable for further analysis.

Purpose 4: To determine if relationships exist between director's leadership style and characteristics of the program and institution's organizational structure.

Table 19, identifies the independent variables of leadership style, and organizational structural variables, treated as the dependent variables and tested by the canonical correlation procedure.

The canonical correlation analysis procedure employing the variables described in Table 19 resulted in no significant relationships at the .05 level. The correlation matrix for the variables in Table 19 are displayed in Appendix O.

Purpose 5: To describe the differences in cooperative education director's leadership style between two-year and four-year institutions.

A T-test for differences among the leadership style score means of the two-year college co-op directors and the four-year college directors was used to compare responses of each group in their perceptions of their leadership styles of consideration and initiating structure. The T-test was applied to each leadership style dimension for the two respondent groups. The level of significance was set at the .05 level. As can be seen from Table 20, no significant differences existed between two-year college co-op directors and four-year co-op directors on the two leadership style dimensions of consideration and initiating structure.

Table 19
Independent and Dependent Variables Tested by Canonical Correlation Analysis for Purpose 4

Symbol	Description	Variable Measure
INDEPENDENT VARIABLES		
Raw C	Raw score on leadership style dimension of consideration.	Consideration
Raw S	Raw score on leadership style dimension of initiating structure	Structure
DEPENDENT VARIABLES		
CENT 2	Decision making authority	Centralization
STD1	Task instructions oral or written	Standardization
SD1	Coordinator schedules own activities	Standardization
SD3	Coordinator activities scheduled by institution's administration	Standardization
FM1	Learning objectives written on standardized forms and copies distributed.	Formalization
ORGPTHAC	Co-op program located within academic or non-academic organization	Placement within organization
SPANCONT	Number of employees who directly report to the co-op director (Span of control).	Configuration

Table 20

T-test Results for Difference Between Two-year and Four-year College Co-op Directors on their Leadership Style Score Means

Leadership Style Variable	Type of Institution	No. of Cases	Mean	Standard Deviation	T-Value	d.f.	2-Tail Probability
CONSIDERATION	2-Year College	70	57.04	5.14	-1.10	137	0.32
	4-Year College	69	57.97	5.78			
INITIATING STRUCTURE	2-Year College	70	43.29	8.25	.39	137	0.69
	4-Year College	69	42.80	6.21			

Purpose 6: To describe any differences which may exist among the six geographic regions in the United States (Appendix A) and type of institution in terms of director's leadership style and organizational structural characteristics on program outcomes.

A two-way analysis of variance (ANOVA) among the leadership style variable means and the organization structural variable means of co-op directors at two-year and four-year colleges in the six regions was applied to determine if differences in leadership style and organizational structure on program outcomes existed. The analysis of variance was applied to each of the two leadership style variables of consideration and initiating structure, and to the organizational structural variables of centralization, standardization, formalization, placement within the organization, and configuration, to each of the three program outcomes of percent of total students who are co-op students, percent of total academic departments who have co-op students,

and cost per cooperative education student placement. Where significant differences at the .05 level appeared, the means in each cell were examined for differences.

Table 21 and Figure 1 display the Independent Variables that were used with two-year and four-year colleges, and regions in the United States on each of the three dependent variables of cooperative education program outcomes. Variable CENT2 and STD1 (Decision-making authority and form of task communication) were determined by the factor analysis and reliability procedure described on pp 62-65. Variable SD1, SD3, and FM1 (Coordinators schedule their own activities, administration schedules co-op coordinator's activities, and learning objectives are written on standardized forms) are single item factors derived by the factor analysis procedure described on pp 62-65. These variables have not been determined to be reliable measures. However, due to the response pattern on the single item factors resulting in relatively distinct commonalities the researcher included the items in the analysis of variance procedure. Organizational Placement of the cooperative education program within the institutional organizational structure was determined to be reliable as a result of the interrater reliability procedure described on pp. 62-65, and included in the analysis of variance procedure. The number of employees directly reporting to the cooperative education director (Span of Control) was used in the analysis of variance procedure. There is no reliability data available on the span of control, as reported by the responding directors, but was included in the analysis of variance procedure to determine if differences existed on the reported span of control for cooperative education directors.

Table 21
Treatment Variables Applied to Means of Program Outcomes

Treatment Variables				
Two-year College and Four-year College				
Region in the United States: 1=New England 2=Middle States 3=Southern 4=North Central 5=North West 6=Western				
Independent Variables				
Symbol	Description	Organizational Variable	Reliability Determined Yes	No
CENT2	Decision Making Authority	Centralization -vs- Decentralization	X	
STD1	Form of Task Communication	Standardization	X	
SD1	Coordinator Schedules their own activities	Standardization		X
SD3	Administration schedules coordinator's activities	Standardization		X
FM1	Learning objectives written on Standardized Forms	Formalization		X
ORGPTHAC	Organizational Placement of the Cooperative Education Program within the Institutions Organizational Structure	Organizational Placement	X	
SPANCONT	Span of Control of the Responding Cooperative Education Director	Configuration		X

The result of the two-way analysis of variance was a set of six two-way interactions that were significant at the .05 level. Table 22 displays the variables which interacted on the dependent variables that were statistically significant. The table reference for each interaction in Table 22 refers to the following tables and figures which display the means for each of the interaction terms.

Table 22

Statistically Significant Interactions of the Means of Independent Variables and College Type or Region in the United States

Dependent Variable	College Type by Standardization Variable: Form of Task Communication	College Type by Standardization Variable: Administrative Scheduling of Co-op Coordinators Activites	Region by Standardization Variable: Form of Task Communication	Region by Standardization Variable: Co-op Coordinators Schedule their own Activities
V-Percent of Total Students who are Cooperative Education Students	See Table 23 for Cell Means and Figure 1 for Interactions	See Table 24 for Cell Means and Figure 2 for Interactions	See Table 25 for Cell Means and Figure 3 for Interactions	
X-Percent of Total Academic Departments who have Co-op Students	See Table 26 for Cell Means and Figure 4 for Interactions	See Table 27 for Cell Means and Figure 5 for Interactions		See Table 28 for Cell Means and Figure 6 for Interactions

The statistically significant interaction between two-year and four-year colleges and among responses to the form of task communication on percent of total students who are cooperative educations students was difficult to analyze. Examination of Table 23 and Figure 1 reveals an interaction occurred between two-year and four-year college directors who responded to low standardization for the measure: tasks are communicated orally. Thus, four-year directors have higher percentages of co-op students than two-year directors who responded that tasks are communicated orally.

Table 23

Cell Means for Statistically Significant Interactiona Between Two-year and Four-year College Directors' Responses to Standardization Variable, Form of Task Communication on Dependent Variable V, Percent of Total Students who are Cooperative Education Students

Cell means = Percent of Total Students who are Cooperative Education Students.

	Task Instructions Oral (Low Standardization)			Task Instructions Written (High Standardization)	
Directors' Numerical Response	1	2	3	4	5
Two-year College ($\bar{x}$=4.48%)	3.04%	2.49%	4.48%	9.58%	2.63%
Four-year College ($\bar{x}$=4.40%)	8.06%	0.82%	2.82%	7.32%	3.01%

a-Significance of F=0.003

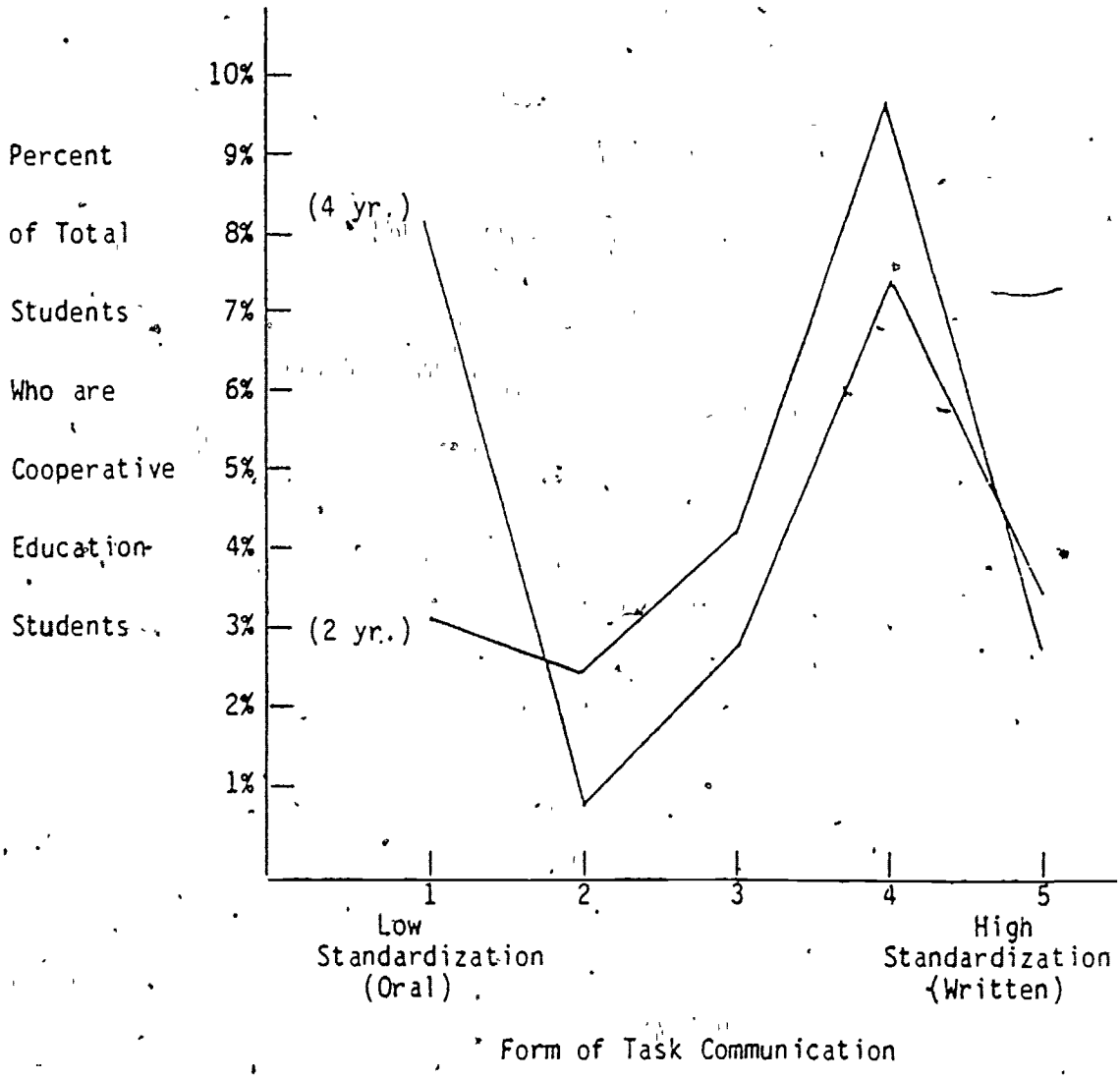

Figure 1. Two-way interactions between two-year and four-year college directors' responses to standardization variable, form of task communication on dependent variable V, percent of total students who are cooperative education students.

The statistically significant interaction between two-year and four-year colleges and among responses to the question of administration scheduling coordinator's activities, on percent of total students who are cooperative education students was difficult to interpret. Examination of the mean responses displayed in Table 24, and Figure 2 suggested that there may have been a significant difference for response 3, intermediate standardization. Four-year college directors appear to have higher percentages of co-op students than two-year college directors who responded in the same manner.

Table 24
Cell Means for Statistically Significant Interactiona Between Two-year and Four-Year College Directors' Responses to Standardization Variable, Administration Schedules Co-op Coordinator's Activities on Dependent Variable V, Percent of Total Students who are Cooperative Education Students

	Cell Means = Percent of Total Students Who Are Cooperative Education Students.				
	Administration Does Not Schedule Coordinator's Activities (Low Standardization) ----------			Administration Schedules Coordinator's Activities (High Standardization)	
Directors' Numerical Response	1	2	3	4	5
Two-year College ($\bar{x}$=4.46%)	5.28%	2.57%	2.82%	3.42%	1.39%
Four-year College ($\bar{x}$=4.29%)	4.43%	2.49%	8.90%	2.60%	1.47%

a-Significance of F=0.013

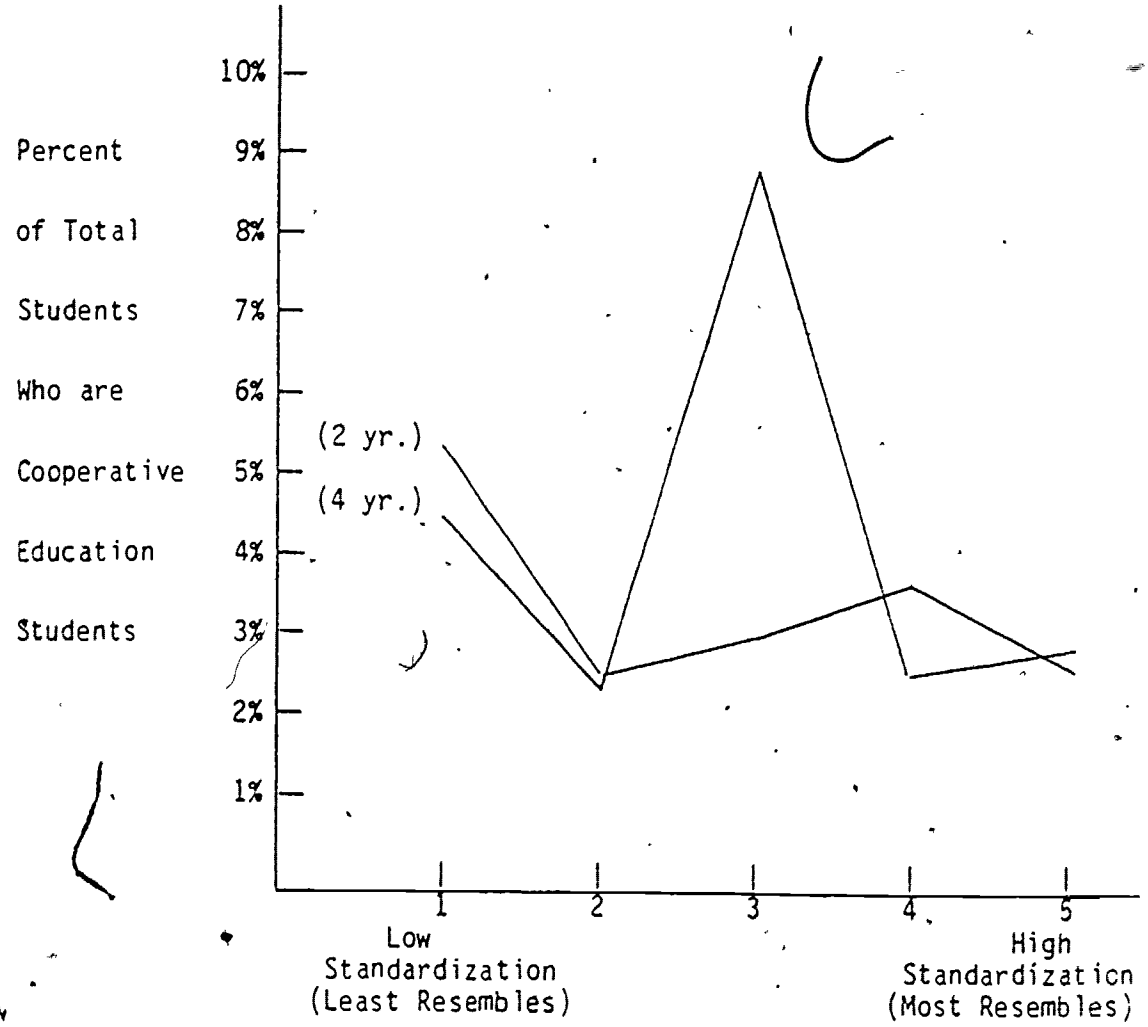

Figure 2. Two-way interactions between two-year and four-year college directors' responses to standardization variable, administration schedules co-op coordinator's activities on dependent variable V, percent of total students who are cooperative education students.

The statistically significant interaction among regions and responses to the form of task communication on percent of total students who were cooperative education students was difficult to analyze. There does not appear to be any interpretable pattern existing among the means, as shown in Table 25 and Figure 3.

Table 25
Cell Means for Statistically Significant Interaction[a] Among Directors' Responses in the Six Regions in the United States to Standardization Variable, Form of Task Communication on Dependent Variable V, Percent of Total Students who are Cooperative Education Students

	Cell Means = Percent of Total Students who are Cooperative Education Students.				
	Task Instructions Oral (Low Standardization) ------				Task Instructions Written (High Standardization)
Directors' Numerical Response	1	2	3	4	5
Region 1 New England ($\bar{x}$=4.23%)	1.92%	1.13%	9.35%	5.75%	None Responded
Region 2 Middle States ($\bar{x}$=10.87%)	13.69%	1.34%	2.84%	26.40%	2.12%
Region 3 Southern ($\bar{x}$=2.77%)	2.47%	3.33%	2.39%	1.98%	4.77%
Region 4 North Central ($\bar{x}$=3.58%)	2.98%	4.17%	3.73%	7.91%	1.59%
Region 5 North Western ($\bar{x}$=2.51%)	2.46%	0.86%	3.82%	3.12%	0.19%
Region 6 Western ($\bar{x}$=2.83%)	3.59%	1.03%	2.59%	2.78%	7.82%

a-Significance of F=0.016

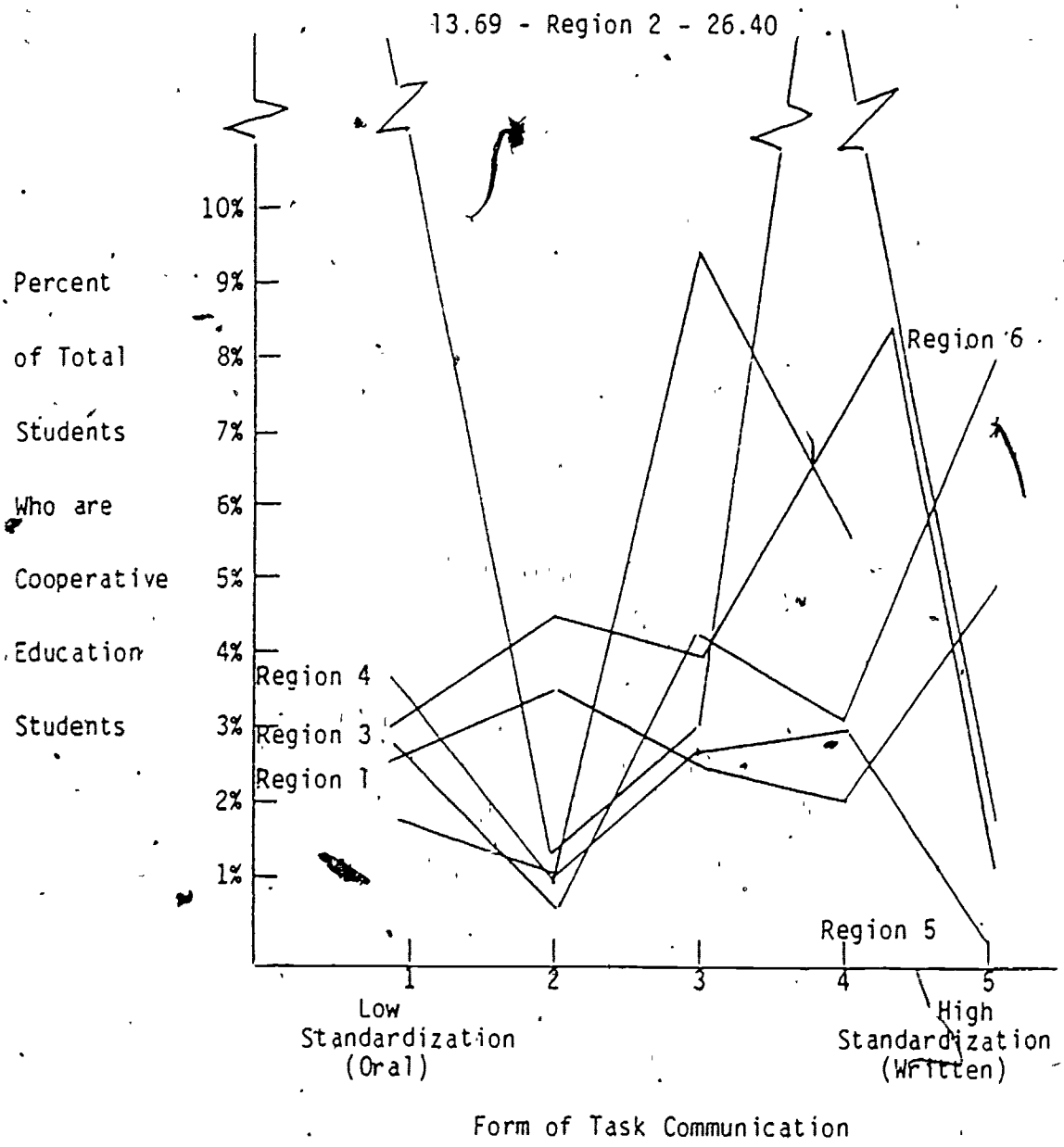

Figure 3. Two-way interactions among directors' responses in the six regions in the United States to standardization variable, form of task communication on dependent variable V, percent of total students who are cooperative education students

The statistically significant interaction between two-year and four-year colleges and among responses to the form of task communication on percent of total academic departments who have co-op students again was difficult to analyze. Examination of the mean responses in Table 26 and Figure 4 suggested that there may have been a significant difference for directors who responded to high-standardization (Response 5). Two-year college directors appear to have higher percentages of academic departments who have co-op students than four-year college directors who responded in the same manner.

Table 26
Cell Means for Statistically Significant Interaction[a] Between Two-year and Four-Year College Directors' Responses to Standardization Variable, Form of Task Communication on Dependent Variable X, Percent of Total Academic Departments who have Co-op Students

	Cell Means = Percent of Total Academic Departments who have Co-op Students				
	Task Instructions Oral (Low Standardization) -------				Task Instructions Written (High Standardization)
Directors' Numerical Response	1	2	3	4	5
Two-year College ($\bar{x}$=54.42%)	50.77%	56.11%	48.25%	65.10%	64.47%
Four-year College ($\bar{x}$=52.19%)	59.00%	32.33%	56.70%	48.94%	33.41%

a-Significance of F=0.000

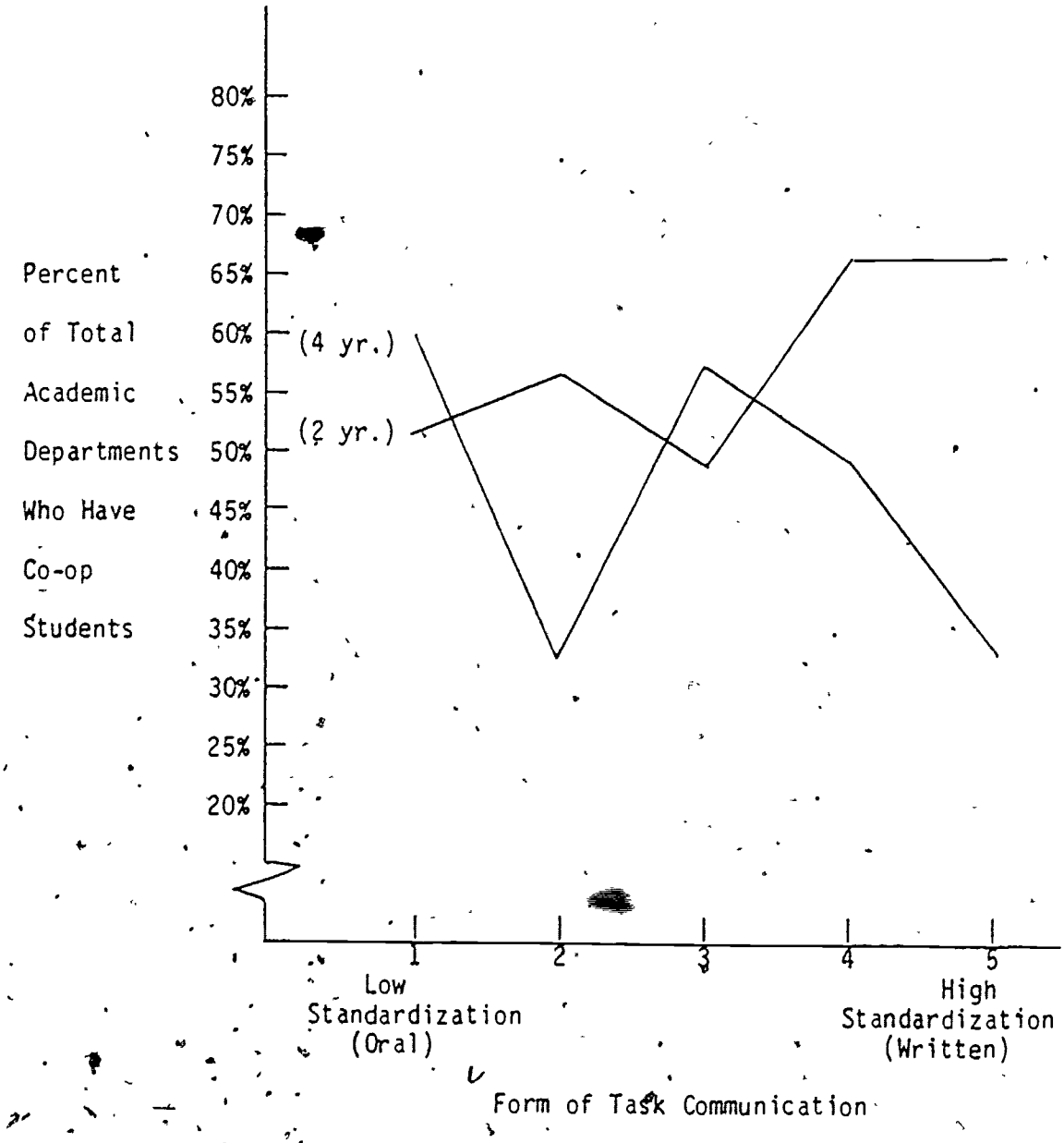

Figure 4, Two-way interactions between two-year and four-year college director's responses to standardization variable, form of task communication on dependent variable X, percent of total academic departments who have co-op students

The statistically significant interaction between two-year and four-year colleges and among responses to the question of administration scheduling coordinator's activities, on percent of total academic departments who have co-op students was extremely difficult to analyze. There does not appear to be any interpretable pattern existing among the means as shown in Table 27 and Figure 5.

Table 27
Cell Means for Statistically Significant Interactiona Between Two-year and Four-Year College Directors' Responses to Standardization Variable X, Percent of Total Academic Departments who have Co-op Students

	Cell Means=Percent of Total Academic Departments who have Co-op Students.				
	Administration Does Not Schedule Coordinator's Activities (Low Standardization) ----------			Administration Schedules Coordinator's Activities (High Standardization)	
Directors' Numerical Response	1	2	3	4	5
Two-year College ($\bar{x}$=54.77%)	57.41%	40.89%	48.55%	59.91%	54.97%
Four-year College ($\bar{x}$=51.18%)	52.11%	46.31%	38.83%	53.53%	63.26%

a-Significance of F=0.000

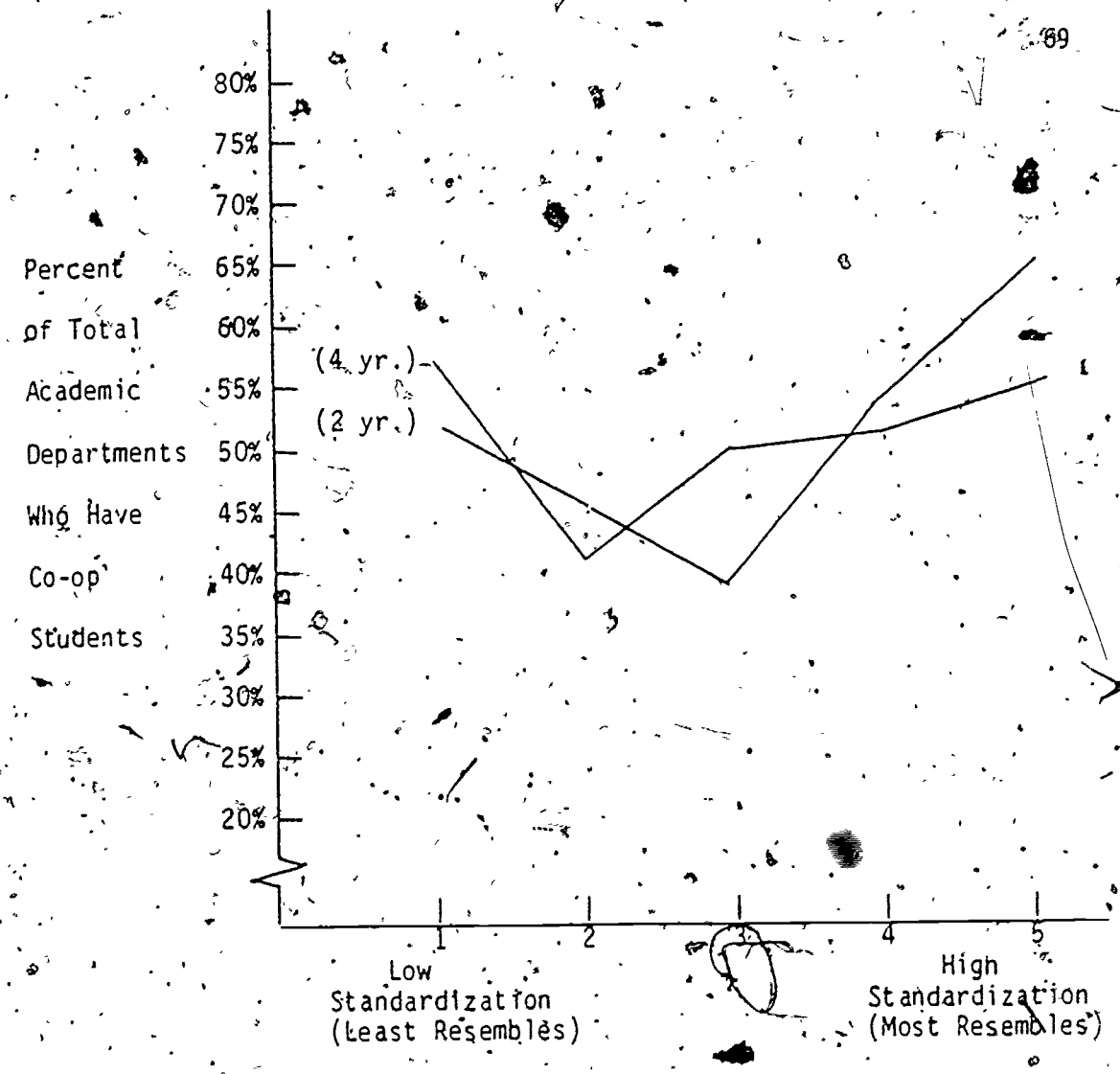

Figure 5. Two-way interactions between two-year and four-year college directors' responses to standardization variable, form of task communication on dependent variable X, percent of total academic departments who have co-op students.

The statistically significant interaction among regions and responses to the question of coordinators scheduling their own activites, on percent of total academic departments who had co-op students was difficult to analyze. There does not appear to be any interpretable pattern existing among the means as shown in Table 28 and Figure 6.

Table 28

Cell Means for Statistically Significant Interactiona Among Directors' Responses in the Six Regions of the United States to Standardization Variable, Coordinator Schedules own Activities on Dependent Variable X, Percent of Total Academic Departments who have Co-op Students

	Cell Means=Percent of Total Academic Departments Who have Co-op Students				
	Coordinators Schedule Own Activities (Low Standardization)			Coordinators Do Not Schedule Own Activities (High Standardization)	
Directors' Numerical Response	19.29%	50.38%	52.98%	62.40%	52.51%
Region 1 New England ($\bar{x}$=49.16%)	48.68%	32.38%	67.60%	48.38%	70.20%
Region 2 Middle States ($\bar{x}$=54.15%)	34.94%	39.62%	65.65%	44.46%	31.59%
Region 3 Southern ($\bar{x}$=46.27%)	48.38%	33.79%	63.41%	50.00%	60.43%
Region 4 North Central ($\bar{x}$=51.61%)	56.90%	71.97%	69.28%	30.68%	56.60%
Region 5 North Western ($\bar{x}$=60.70%)	56.90%	71.97%	69.28%	30.68%	56.60%
Region 6 Western ($\bar{x}$=53.70)	58.59%	45.97%	34.57%	75.45%	68.57%

a-Significance of F=0.000

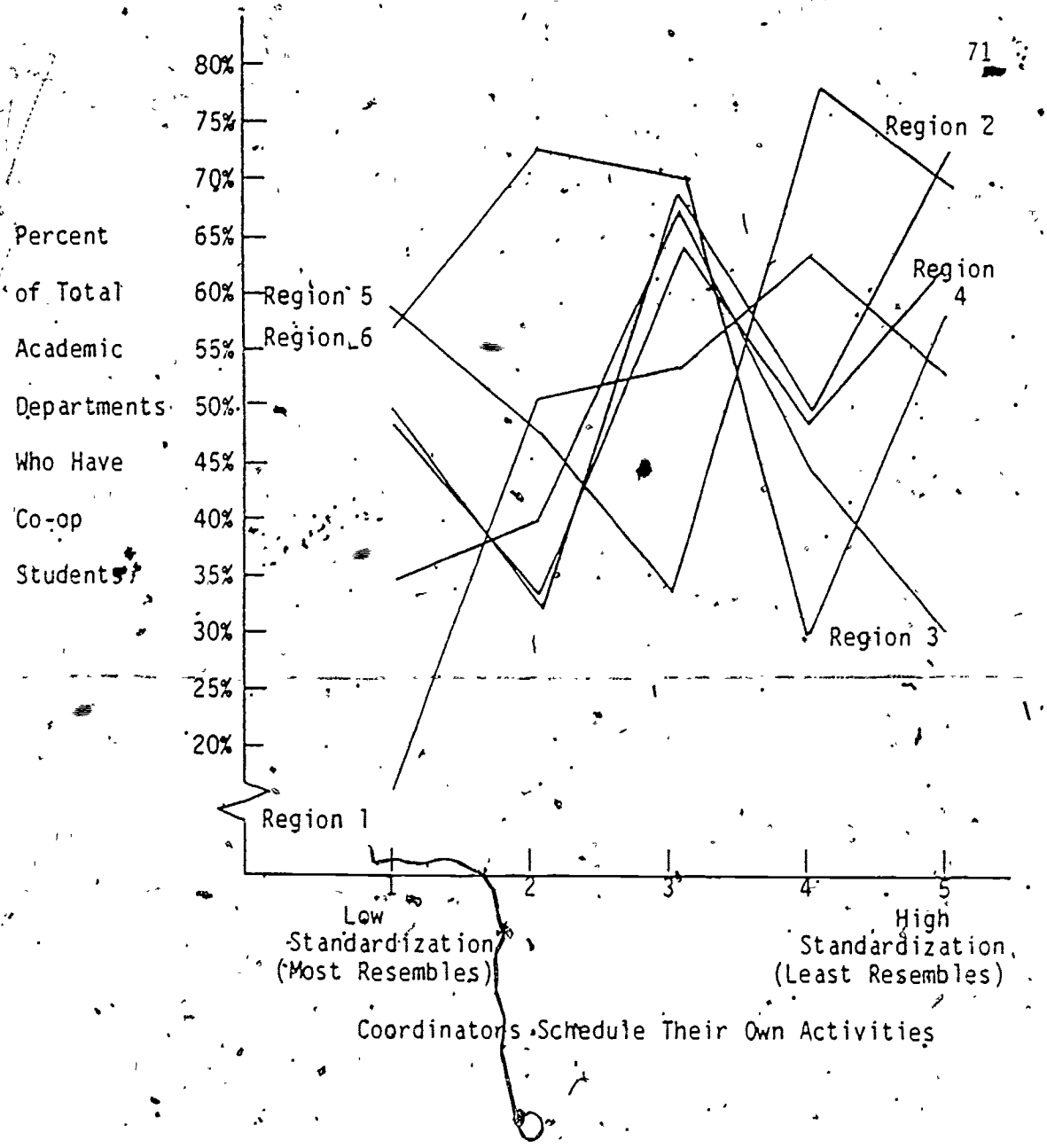

Figure 6. Two-way interactions between two-year and four-year college directors' responses to standardization variable, form of task communication on dependent variable X, percent of total academic departments who nave co-op students

Purpose 7: To identify the strength of relationship among dimensions of director's leadership style and organizational structural characteristics to selected cooperative education program outcomes.

A canonical correlation procedure was applied to the set of factors which were developed from the factor analysis procedure described on pp. 62-65. The two factor scales which had Alpha reliability coefficients above .5 were tested in conjunction with the three single item factors. In addition, the directors' span of control, placement of the cooperative education program within the institutional structure, and leadership style dimension scores was included in the analysis. The independent and dependent variables tested are shown in Table 29 on the following page:

The canonical correlation analysis procedure employing the variables described in Table 29 resulted in no significant relationships at the .05 level. (Refer to Appendix P for correlation matrix.)

Hypothesis Number 1. There are no relationships among cooperative education program outcomes as influenced by the leadership style of the director or the structural characteristics of the organization.

In order to test the null hypothesis number 1, a canonical correlation analysis was applied as described in purpose 7, above. The results of the canonical analysis resulted in no significant set of correlations at the .05 level of significance. Examination of the correlation matrix (Ref. Appendix P) confirmed low relationships through examination of each inter-item correlation. The null hypothesis number 1 was not rejected.

Table 29
Independent and Dependent Variables Tested by Canonical Correlation Analysis for Purpose 7

INDEPENDENT VARIABLES

Symbol	Description	Variable Measure
CENT 2	Decision making authority	Centralization
STD1	Task instructions oral or written	Standardization
SD1	Coordinator schedules own activities	Standardization
SD3	Coordinator activities scheduled by institution's administration	Standardization
FM1	Learning objectives written on standardized forms and copies distributed.	Formalization
ORGPTHAC	Co-op program located within academic or non-academic organization	Placement within Institution
SPANCONT	Number of employees who directly report to the co-op director (Span of Control)	Configuration
Raw C	Raw score on leadership style dimension consideration	Consideration
Raw S	Raw score on leadership style dimension of initiating structure	Structure

DEPENDENT VARIABLES

Symbol	Description
V	Percent of total students who are co-op students.
X	Percent of total academic departments who have co-op students.
Y	Cost per cooperative education student placement.

Hypothesis Number 2. There is no difference among the six geographic regions in the United States (Appendix A) in terms of the leadership style of the director and the structural characteristics of the organization.

In order to test the null hypothesis number 2, one-way analyses of variance were computed on the means for each of the six regions in the United States for directors' responses on each of the Leadership Style and organizational structural variables (Table 30). The results of these nine analyses of variance are presented in Tables 31 through 39.

Table 30
Leadership Style and Organizational Structure Variables Used in the One-way Analysis of Variance Procedure with the Six-Regions in the United States

Symbol	Description	Variable Measure
Raw C	Raw score on leadership style dimension of consideration.	Consideration
Raw S	Raw score on leadership style dimension of initiating structure	Structure

Symbol	Description	Variable Measure
CENT 2	Decision making authority	Centralization
STD1	Task instructions oral or written	Standardization
SD1	Coordinator schedules own activities	Standardization
SD3	Coordinator activities scheduled by institution's administration	Standardization
FM1	Learning objectives written on standardized forms and copies distributed	Formalization
ORGPLACE	Co-op program located within academic or non-academic organization	Placement within organization
SPANCONT	Number of employees who directly report to the co-op director (Span of control)	Configuration

Table 31
One-way Analysis of Variance for Means of Six Regions in the United States and Leadership Style Variable-Consideration

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	39.89	7.98	0.26	0.93
Within Groups	133	4084.85	30.71		
Total	138	4124.74			

Table 32
One-Way Analysis of Variance for Means of Six Regions in the United States and Leadership Style Variable-Initiating Structure

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	271.60	54.32	1.02	0.41
Within Groups	133	7062.14	53.10		
Total	138	7333.74			

Table 33
One-way Analysis of Variance for Means of Six Regions in the United States and Centralization Variable-Decision Making Authority

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	3.14	0.63	0.67	0.65
Within Groups	124	116.24	0.94		
Total	129	119.38			

Table 34
One-way Analysis of Variance for Means of Six Regions in the United States and Standardization Variable-Form of Task Communication

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	10.19	2.04	1.53	0.19
Within Groups	128	171.11	1.34		
Total	133	181.31			

Table 35
One-way Analysis of Variance for Means of Six Regions in the United States and Standardization Variable-Coordinator Schedules own Activities

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	19.96	3.99	1.97	0.09
Within Groups	131	265.10	2.02		
Total	136	285.07			

Table 36
One-way Analysis of Variance for Means of Six Regions in the United States and Standardization Variable-Coordinator Activities Scheduled by Institution's Administration

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	5.47	1.09	1.01	0.41
Within Groups	132	142.92			
Total	137	148.39			

Table 37
One-way Analysis of Variance for Means of Six Regions in the United States and Formalization Variable-Learning Objectives Written on Standardized Forms and Distributed

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	31.38	6.28	2.86	0.02*
Within Groups	133	292.23	2.20		
Total	138	323.61			

*Significant at the .05 level.

Table 38
One-way Analysis of Variance for Means of Six Regions in the United States and Organizational Placement of the Cooperative Education Program

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	.42	0.08	0.55	0.74
Within Groups	132	20.05	0.15		
Total	137	20.47			

Table 39
One-way Analysis of Variance for Means of Six Regions in the United States and Configuration Variable-Number of Employees who Directly Report to the Co-op Director (Span of Control)

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (Regions)	5	4740.44	948.09	4.40	0.00*
Within Groups	120	25851.72	215.43		
Total	125	30592.16			

*Significant at the .05 level.

Differences existed on two of the organizational structural variables at the .05 level of significance among regions in the United States. To identify where differences between means existed, a Tukey test was applied at the .05 level.

The data in Table 37 shows a statistically significant difference among responding directors on the formalization variable of learning objectives written on standardized forms and distributed. The higher the response mean, on a scale of 1 to 5, the higher the indication that learning objectives are written on standardized forms and distributed. The Tukey test identified the difference between region 5 (Northwest) with a mean response of 4.61, and regions 1 (New England) and 4 (North Central), with means of 3.14 and 3.32, respectively.

The data in Table 39 shows a statistically significant difference among responding directors on the configuration variable of number of employees who directly report to the co-op director (span of control). The higher the response mean, the larger the span of control for the director to supervise. The Tukey test identified the difference to

exist between region 5, (Northwest) with a mean response of 22.95 employees, and regions 1 (New England), 2 (Middle States), 3 (Southern), and 4 (North Central), with means of 7.74, 9.38, 7.13 and 7.71, respectively.

As a result of these statistically significant differences, the null hypothesis number 2 was rejected. Directors from region 5 (Northwest) had mean responses higher on one formalization variable and number of employees supervised by the cooperative education director.

The formalization variable was a single item factor generated by the factor analysis procedure described earlier in this section. Because of the single item in the factor, there was no statistical reliability test conducted. The configuration variable span of control was the number of employees directly reporting to the responding cooperative education director. There was no statistical reliability test conducted. Therefore, while the null hypothesis number 2 was rejected, interpretation is tenuous because of the lack of reliability of the measures available.

Hypothesis Number 3. There is no difference between two-year and four-year institutions in terms of the leadership style of the director and the structural characteristics of the organization.

In order to test the null hypothesis number 3, one-way analyses of variance were computed on the means for two-year and four-year college directors' responses on each of the leadership styles and organizational structural variables shown in Table 40. The results of these nine Analyses of Variance are presented in Tables 41 through 49.

Table 40
Leadership Style and Organizational Structure Variables Used in the One-Way Analysis of Variance Procedure with Two-year and Four-year Colleges

Symbol	Description	Variable Measure
Raw C	Raw score on leadership style dimension of consideration.	Consideration
Raw S	Raw score on leadership style dimension of initiating structure	Structure

Symbol	Description	Variable Measure
CENT 2	Decision making authority	Centralization
STD1	Task instructions oral or written	Standardization
SD1	Coordinator schedules own activities	Standardization
SD3	Coordinator activities scheduled by institution's administration	Standardization
FM1	Learning objectives written on standardized forms and copies distributed	Formalization
ORGPTHAC	Co-op program located within academic or non-academic organization	Placement within organization
SPANCONT	Number of employees who directly report to the co-op director (Span of control)	Configuration

Table 41
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Leadership Style Variable-Consideration

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	29.93	29.93	1.00	0.32
Within Groups	137	4094.81	29.89		
Total	138	4124.74			

Table 42
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Leadership Style Variable-Initiating Structure

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	8.29	8.29	0.16	0.69
Within Groups	137	7325.45	53.47		
Total	138	733.74			

Table 43
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Centralization Variable-Decision Making Authority

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	1.31	1.31	1.42	0.24
Within Groups	128	118.07	0.92		
Total	129	119.38			

Table 44
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Standardization Variable-Form of Task Communication

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	1.81	1.81	1.33	0.25
Within Groups	132	179.50	1.36		
Total	133	181.31			

Table 45
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Standardization Variable-Coordinator Schedules, own Activities

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	0.05	0.05	0.02	0.88
Within Groups	135	285.02	2.11		
Total	136	285.07			

Table 46
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Standardization Variable-Coordinators Activities Scheduled by Institution's Administration

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	0.72	0.72	0.66	0.42
Within Groups	136	147.67	1.09		
Total	137	148.39			

Table 47
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Formalization Variable-Learning Objectives Written on Standardized Forms and Distributed

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	26.14	26.14	12.04	0.00*
Within Groups	137	297.47	2.17		
Total	138	323.61			

*Significant at the .05 level.

Two-Year College Mean = 4.16

Four-Year College Mean = 3.29

Table 48
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Organizational Placement of the Cooperative Education Program

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	0.01	0.01	0.05	0.83
Within Groups	136	20.46	0.15		
Total	137	20.47			

Table 49
One-way Analysis of Variance for Means of Two-year and Four-year Colleges and Configuration Variable-Number of Employees who Directly Report to the Co-op Director (Span of Control)

Source	d.f.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups (2 or 4 year Colleges)	1	1646.45	1646.45	7.05	0.01*
Within Groups	124	28945.71	233.43		
Total	125	30592.16			

*Significant at the .05 level.

Two-Year College Mean = 15.62

Four-Year College Mean = 8.38

Differences existed on the same two organizational structural variables found to be significantly different in testing hypothesis 2. The data in Table 47 shows a statistically significant difference between responding directors on the formalization variable of learning objectives written on standardized forms and distributed. Two-year college directors' mean response ($\bar{x}$=4.16) was higher than four-year college directors' mean response ($\bar{x}$=3.29). The higher the response mean, on a scale of 1 to 5, the higher the indication that learning objectives are written on standardized forms and distributed.

The data in Table 49 shows a statistically significant difference between responding directors on the configuration variable of number of employees who directly report to the co-op director (span of control). Two-year college directors reported a mean of 15.62 employees supervised. The four-year college directors reported a mean of 8.33 employees supervised.

The formalization variable was a single item factor generated by the factor analysis procedure described earlier in this section. Because of the single item in the factor there was no statistical reliability test conducted. The configuration variable, span of control, was the number of employees directly reporting to the responding cooperative education director. There was no statistical reliability test conducted. Therefore, while the null hypothesis number 3 was rejected, interpretation is tenuous because of the lack of reliability measures available.

Exploratory Analysis

As a result of the initial analysis of the data, an exploratory analysis was pursued. The purpose of this study was to identify any relationships which existed among the variables measured. The canonical correlation procedure did not identify any statistically significant linear relationships among the variables. However, examination of the correlation matrix (Appendix P) revealed nine inter-item correlations above .15. There existed statistically significant interactions involving the variables identified in the correlation matrix.

Path-Goal theory of leadership (House 1971) suggests that the more structured the environment, via standardization and formalization, the more effective will be a leader who is low on initiating structure and high on consideration styles of leadership. Because significant differences were found involving standardization, formalization, and configuration; and the implied relationships suggested by path-goal theory, further analysis of the data was undertaken. The variables considered for further analysis are described in Table 50, below.

Table 50
Variables Used for Exploratory Analysis

Symbol	Description	Variable Measure
Organizational Independent Variables		
STD1	Task Instructions oral or written	Standardization
SD1	Coordinator schedules own activities	Standardization
SD3	Coordinators activities scheduled by institution's administration	Standardization
FM1	Learning objectives written on standardized forms and distributed.	Formalization
SPANCONT	Number of employees who directly report to the co-op director (span of control).	Configuration
Leadership Styles Independent Variables		
Raw C	Raw score on leadership style dimension of consideration.	Consideration
Raw S	Raw score on leadership style dimensions of initiating structure.	Initiating Structure
Program Outcome Dependent Variables		
V	Percent of total students who are cooperative education students.	
X	Percent of total academic departments who have co-op students.	
Y	Cost per cooperative education student placement.	

An examination of the possible relationship between each of the dependent (program outcome) variables and the independent variables described in Table 50 was sought. The statistical technique of multiple regression, as suggested by Borg and Gall (1979) was used to explore the strength of relationship and linkages between each dependent variable and each of the independent variables. Specifically, a step-wise inclusion of the independent variables was used to identify the hierarchical construction of the independent variables and the amount of variance of the dependent variable that could be explained by each of the independent variables. Only those independent variables that were statistically significant at the .05 level were considered to be related to the dependent variable being tested.

Findings

Two of the independent variables were found to be statistically significant predictors of two dependent variables. Table 51 describes the dependent variable and the related independent variable, the multiple R, Multiple R square, and the F-ratio for the two pair of related variables.

The statistically significant predictors shown in Table 51 suggest the existence of two relationships: (1) The leadership style of consideration, of the cooperative education director, is positively related to the percent of total students who are cooperative education students. (2) The degree to which cooperative education coordinators schedule their own activities is positively related to the cost per cooperative education student placement.

Table 51
Cooperative Education Program Outcome Variables Found to be Related to Leadership Styles and Organization Structure Variables

Independent Variable	Dependent Variable Percent of total students who are cooperative education students.		
	Multiple R	Multiple R Square	F-Ratio
Leadership Style, Consideration	.21	.05	5.75

Independent Variable	Dependent Variable Cost per cooperative education student placement.		
	Multiple R	Multiple R Square	F-Ratio
Organization Structure Variable, Standardization, Coordinator schedules their own activities	.30	.09	9.71

Although statistically significant relationships were identified, they should be viewed with caution. Multiple R squares of .05 and .09 represents that proportion of the explained variance of program outcomes. Thus 95% and 91% of the program outcome variances are unexplained by the independent variables shown in Table 51.

CONCLUSIONS AND RECOMMENDATIONS

This section provides the conclusions based upon the findings of the study. The section then concludes with recommendations for using the findings and further research implications of the study.

Conclusions

This section will present conclusions based upon the characteristics of the sample and the findings of the purposes, hypotheses, and exploratory analysis of this study.

Characteristics of the sample

1. There exists a wide variety of formal titles of the responding directors. This suggests that there are a number of directors who have responsibilities that go beyond the cooperative education function. Further, that cooperative education, as a comprehensive title, may not be as comprehensive as the literature would suggest.
2. The experience, age, and educational attainment of the responding directors suggested that the respondents, as a whole, were well educated experienced directors. The responses to the survey may be considered to be from a specialized population within higher education.
3. There was a minority proportion (25%) of female directors in the sample. This suggests that the training and recruitment of women into administrative positions in cooperative education may not have been a high priority.

Purposes of the Study

1. To identify leadership styles of directors.

- Comparing the consideration raw score mean of 58 ($\bar{x}$=57.50) to the norms for educational supervisors (Fleishman, 1969), cooperative education directors are in the upper end of the "Low" verbal description norms range for educational supervisors, as shown in Table 52. The initiating structure raw score mean of 43 ($\bar{x}$=43.04) is in the middle range of the "Average" verbal description norms range, as shown in Table 52. (Ref. Appendix D, Table 2 for complete norms range.)

Table 52
Comparison of Responding Cooperative Education Directors' Leadership Style to Norms for Educational Supervisors

Responding Directors' Mean			Norms for Educational Supervisors	
Consideration	Initiating Structure	Verbal Description	Consideration	Initiating Structure
		Very High	73-76	55-61
		High	66-72	49-54
	43	Average	60-65	39-46
58		Low	54-58	31-38
		Very Low	Low-52	Low-29

- The relatively low mean leadership style score of consideration and average initiating structure score suggests that there exists causal factors for such scores not measured in this study. As a group, cooperative education directors have a perceived leadership style of consideration lower than norms for educational supervisors. It may be that the norms were based on

other than higher education personnel, such as elementary and secondary educational supervisors.

2. To measure organizational characteristics.

- The directors' reported span of control varied widely. There were 29% of the directors who reported having ten or more employees who directly reported to the responding director. The larger the span of control, the more complex and time consuming the management of the relationships resulting from increasing the number of subordinates (Urwick, 1956). Functional specialization of the subordinates also influence the capacity of the director to effectively supervise subordinates. There was a proportion of directors who reported a large span of control and functional specialization in all of the categories measured.

- The placement of the cooperative education program within the institution's organization is primarily (82%) within the academic part of the institution. The degree of integration within the academic organizational structure was not directly measured. However, the response to Likert-type question item 13 suggests that there is a wide variation in the location of cooperative education offices. The item asked if co-op coordinator offices were located in various academic department offices. The mean was 2.76, on a scale of 1 to 5, with a wide standard deviation of 1.84.

3. To measure selected program outcomes.

-One of the benefits of a successful cooperative education experience is that employers are able to recruit qualified

personnel. The result being that co-op employers will make job offers to co-op graduates. However, only 56% of the directors responded to this item. Further, nine of those who responded were considered invalid responses. As a result, the researcher considered the item unreliable for analytical purposes. This finding is significant and suggests a lack of record keeping or adaquate follow-up procedures on co-op graduates.

- The percent of full-time faculty as part-time co-op coordinators was not considered a valid measure as a program outcome. As reported earlier, there were 53% of the programs who reported that no full-time faculty participated as part-time co-op coordinators. There are other ways in which faculty may be involved in the cooperative education program that were not measured in this study. Speculating on the finding may suggest that the cost effectiveness issue of such involvement (Stull, 1980) prevents faculty from part-time coordination of cooperative education students.

4. To determine relationships between leadership style variables and organizational variables.

- There were no linear relationships found at the .05 level among leadership style variables and organizational structural variables. Therefore, there appears to be no proportional relationship among the perceived leadership styles of directors of cooperative education and the environment influenced by the institution's organizational structure, as measured in this study. It is entirely possible that curvilinear relationships exist, or other variables influence those relationships.

5. To describe differences between two-year and four-year college directors' leadership styles.

- There were no statistically significant differences between two-year and four-year college co-op directors' responses on the Leadership Opinion Questionnaire. Thus, the perceived leadership style of consideration and initiating structure by cooperative education directors are not different due soley to the two-year or four-year college environment.

6. To describe differences in the variables between college type and among the six regions.

- There were six two-way interactions found to be statistically significant. Analysis of the interactions on program outcomes resulting from type of college or geographical region with the organizational structure variables of standardization revealed no interpretable pattern. There were cases where low, medium, and high measures of standardization by one college type or region all yielded high or low program outcomes. The researcher can only conclude that the interactions were: (1) artifacts of the data; or (2) there exists a moderating element, not measured in this study, which influences the interactions.

7. To identify strength of relationships among the variables.

- There were no statistically significant linear relationships among the leadership styles, organization structure, and cooperative education program outcome variables, as measured in this study. As a result, it is concluded that the perceived leadership styles of cooperative education directors, nor the

perceived organizational structural environment has a significant effect on the percent of total students who are cooperative education students, the percent of academic departments who have co-op students, and the cost per cooperative education student placement. Thus, the strength of any such relationships which may exist could not be measured.

Hypothesis

1. No relationship exists among the variables.

- As a result of the absence of statistically significant linear relationships among the independent and dependent variables, the null hypothesis, number one, was not rejected. It would appear that other variables, not measured in this study, may exist that have stronger relationships than those measured.

2. No difference exists among the six regions on the variables.

- A significant finding is that only two of the seven organizational variables measured were found to be statistically different. Further, the perceived leadership styles of directors was found to have no statistically significant differences among the six geographical regions in the United States.

- This lack of differences among regions suggests that the regions may be too large and thus, there exists no distinguishable pattern that is different from one region of the country to another in terms of leadership styles and the organizational structural variables of centralization, standardization, and placement within the organization. Statistically significant differences did occur among geographical regions on one formalization variable and one configuration variable.

-The formalization variable, learning objectives written on standardized forms and distributed, resulted in region 5 (Northwest) having higher mean responses than did region 1 (New England) and region 4 (North Central). It may be concluded that cooperative education directors at colleges in the northwest place greater emphasis on written learning objectives for cooperative education students. The written objectives are then distributed to the student, coordinator, and employer.

- The configuration variable, span of control, was found to be statistically different among mean responses from region 5 (Northwest), and regions 1 (New England), 2 (Middle States), 3 (Southern), and 4 (North Central). Directors from the northwest region have significantly larger numbers of employees who directly report to them, than do directors in the central and eastern portion of the United States.

- A linkage between larger span of control and written learning objectives in region 5 may be speculated. The more employees the director must supervise, the more formal the record keeping system, at least in terms of documenting cooperative education student learning objectives.

3. No difference exists between type of college on the variables.

- The same two organization structural variables, found to be significantly different among regions in hypothesis 2 were found to be different between two-year and four-year college directors. The formalization variable, learning objectives written on standardized forms and distributed, resulted in two-year college directors' mean responses to be higher than four-

year college directors' mean responses. Therefore, two-year college directors place greater emphasis on written learning objectives for cooperative education students than do four-year college directors.

- The configuration variable, span of control, was found to be statistically different between mean responses of two-year college directors and four-year college directors. Two-year college directors have significantly larger number of employees who directly report to them, than do directors at four-year colleges. This finding may be interpreted as directors from two-year colleges have more subordinates due to: (1) the director has multiple responsibilities and thus, supervises more than co-op personnel, and/or (2) there are a larger number of personnel employed in two-year college co-op programs than four-year college co-op programs.

Exploratory Analysis

1. There exists a statistically significant relationship between the percent of total students who are cooperative education students and the director's self-perceived leadership style variable of consideration. The higher the leadership style of consideration perceived by the director, the higher the proportion of students enrolled in the cooperative education program. Statistical significance and practical significance in this case, may not coincide. Conceptually, if knowledge of a director's concern for his/her subordinates is known, this finding suggests that 95% of the variance in co-op program enrollment is due to other factors, and in particular, factors other than those measured in this study.

2. The statistically significant relationships between the cost per cooperative education student placement and the degree to which co-op coordinators schedule their own activities is unusual. This finding suggests that co-op coordinators who are given the autonomy to schedule their own activities (less structure) will increase the cost of placing cooperative education students on work assignments. The correlation was found to be 30%, but the explained variance was only 9%. This finding should be interpreted carefully, as it would suggest that co-op coordinators activities should be more structured if lower placement costs are desired.

Recommendations

The following recommendations are based upon the findings, limitations, and conclusions of this study.

1. Because of the low proportion of female to male directors of cooperative education, it is recommended that a higher priority be given to the recruitment and training of women for administrative positions in cooperative education.
2. Future research in cooperative education can be improved through current mailing lists. It is recommended that an effort be made to establish a system to provide a regular updating of personnel and addresses in cooperative education.
3. The leadership style of consideration had a mean score which was low compared to norms for educational supervisors. The measure was a self-perception by responding directors. It is recommended that directors of cooperative education programs

employ the Leadership Opinion Questionnaire to discover their perceived leadership styles. Cooperative education training centers can use the LOQ to assist directors to measure their perceived leadership styles. Those directors who score low on consideration should seek ways to improve how they perceive their concern for their subordinates. Cooperative education training centers should consider developing programs that would assist directors in relating with their subordinates.

4. A number of director's reported span of control was in excess of ten, and one reported that 79 subordinates reported directly to the responding director. It is recommended that administrators review the configuration of units under their direction. Further, that the span of control of cooperative education directors be adjusted, as needed, to provide optimal supervision to subordinates to achieve program goals.

5. Responses to the questions related to the existence, revision, and distribution of an institutional organization chart were mixed. There were 19% who reported that they did not receive an organization chart, and 45% who reported that revisions were not made or distributed. Institution administrators should make an effort to see that all college administrators receive an organization chart, and that the charts be appropriately revised. In some cases, cooperative education directors should make the effort to obtain their institution's current organizational chart.

6. There were 37% of the directors who reported that the cooperative education program did not have a written procedure,

rules, and policy manual for operation of the co-op program. It is recommended that those programs who lack such a manual set as higher priority the development of a manual for the operation of their cooperative education program. Procedures, rules, and policies should be the result of setting goals and planning an effective cooperative education program. Further, such procedures, rules, and policies can be the basis for program evaluation and a means to change and develop the cooperative education curriculum.

7. The literature (Hayes & Travis, 1976; Perloff & Sussna, 1978; Knowles et al. 1971; Bodey, 1975; Hutt, 1977) suggest that the extent to which cooperative education employers make job offers to co-op graduates is a measure of program effectiveness. Only 56% were able to respond to this measure, and nine were found to be unrealistic responses. It is recommended that cooperative education directors make an effort to collect such data both for reporting purposes and for program evaluation.
8. The significant relationship between cooperative education coordinators who schedule their own activities and increased costs per cooperative education student placement should concern co-op directors. Individual coordinator's activities should be reviewed to determine the effectiveness of those activities for coordinators who have the autonomy to schedule their own activities.

Recommendations for Further Research

The findings, limitations, and conclusions of this study are the basis for the following recommendations for further research.

1. Through random sampling procedures, an extremely low proportion of private two-year colleges were identified which have cooperative education programs. It is recommended that research be conducted to determine if such a low proportion does in fact exist, and if so, why private two-year colleges have not adopted cooperative education programs.
2. This study has identified the leadership styles of cooperative education directors to be low in comparison to norms for educational supervisors. The use of the Leadership Opinion Questionnaire (LOQ) provided a self-perception of the two leadership style constructs of consideration and initiating structure. A more thorough understanding of the leadership styles of co-op directors could be obtained through follow-up studies which would replicate this study and use other instruments, such as the Leader Behavior Description Questionnaire (LBDQ). The LBDQ can measure the director's leadership style as perceived by subordinates or the director's immediate superior.

3. There was a lack of strong relationships between organizational structural variables and cooperative education program outcomes as measured in this study. This finding suggests two recommendations.

   a. Measures of organizational structural variables need to be refined to develop more consistent and congruent measures of organizations in higher education.

b. Cooperative education program outcome variables, that can be quantified, be identified in addition to those measured in this study.

Thus, with refined and/or additional measures, further research can be conducted to identify any relationships which may exist.

4. There was a wide variation in the reported number of subordinates who directly reported to the co-op director (span of control). In addition, nearly 30% reported a span of control of ten or more subordinates. Two-year college co-op directors had a significantly larger span of control than did four-year college co-op directors. Also, the northwest region (5) co-op directors reported a significantly larger span of control than did regions other than the western region (6). It is recommended that research be conducted to assess, in detail, the configuration of cooperative education programs, and to attempt to determine the relationships between director's span of control and task responsibilities (not measured in this study). Further, to determine if director's span of control differs with regard to subordinates perception of the director's leadership styles.

5. The percent of part-time coordinators who were full-time faculty was reported as none by 53% of the responding directors. In the conclusions section, speculation was made suggesting that such involvement may not exist due to a lack of cost effectiveness. Research should be conducted to determine the cause(s) for non-involvement in coordination activities. Certain benefits are accrued through such involvement, and further research should

attempt to assess the value loss where instructional faculty do not coordinate cooperative education students.

6. The two-way interactions between type of college or region and organization structural variables of standardization suggest further investigation. It is recommended that further research be conducted to determine if other variables (not identified in this study) influence such interactions.

7. The finding that the northwest (region 5) and two-year colleges appear to place a greater emphasis on cooperative education learning objectives being written on standardized forms and distributed to the director, coordinator, student, and employer is significant. This finding suggests that the cooperative education principle of establishing meaningful learning objectives varies regionally and between type of institutions. Further research is needed to measure the extent to which learning objectives are established and the various methods for establishing such objectives.

8. The director's leadership style of consideration was found to be related to the percent of total students who are cooperative education students. However, 95% of the variance in percent of co-op enrollment, was not explained by the director's leadership style of consideration. It is recommended that further research be conducted to determine other variables which contribute to increased participation of students in cooperative education programs.

9. Fully 91% of the variance in cost per cooperative education student placement was unexplained by measures in this study. Further research should be conducted to identify other variables which contribute to increased costs of student placement.

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APPENDIXES

Appendix A
Regional Breakdown

New England Region

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Middle States Region

Delaware
District of Columbia
Maryland
New Jersey
New York
Pennsylvania

Southern Region

Alabama
Florida
Georgia
Kentucky
Louisiana
Mississippi
North Carolina
South Carolina
Tennessee
Texas
Virginia

North Central Region

Arizona
Arkansas
Colorado
Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
New Mexico
North Dakota
Ohio
Oklahoma
South Dakota
West Virginia
Wisconsin
Wyoming

Northwest Region

Alaska
Idaho
Montana
Nevada
Oregon
Utah
Washington

Western Region

California
Hawaii

Appendix B
Expert Panel

1. Ms. Barbara Heller
   Graduate School and University Center
   City University of New York
   33 West 42nd Street
   New York, New York 10036

2. Dr. James Varty
   McComb Community College
   14500 Twelve Mile Road
   Warren County
   McComb, Michigan 48093

3. Dr. Dorothy McNut
   College of the Mainland
   8001 Palmer Highway
   Texas City, Texas 77590

4. Dr. James Wilson
   Northeastern University
   360 Huntington Avenue
   Boston, Massachusetts 02115

5. Dr. Kim Boal
   Utah State University
   Department of Business Administration
   Assistant Professor
   Logan, Utah 84322

6. Dr. Harry Heineman
   La Guardia Community College
   31-10 Thomson Avenue
   Long Island City, New York 11101

7. Dr. Louis W. Trent
   Assistant Professor
   University of Cincinnati
   Division of Professional Practice
   Cincinnati, Ohio 45221

8. Mr. Sam Lamb
   Virginia Beach Campus
   Tidewater C.C.
   Virginia Beach, Virginia 23456

9. Mr. Mark Anderson, Asst. Dean
   Director of Cooperative Education
   Gustavus Adolphus College
   St. Peter, Minnesota 56082

Appendix C

COOPERATIVE EDUCATION DIRECTOR SURVEY

This survey is intended to identify the cooperative education director's background, institutional and program organizational characteristics, cooperative education program outcomes, and director's leadership style.

Part I Background Data

1. How many years have you served in your present position, excluding the current year? _____ (years)

2. Sex (please check one)
   - ☐ male
   - ☐ female

3. What is your age as of your last birthday? (please check one)
   - ☐ 24 or under
   - ☐ 25-29
   - ☐ 30-34
   - ☐ 35-39
   - ☐ 40-44
   - ☐ 45-49
   - ☐ 50-54
   - ☐ 55-59
   - ☐ 60 or over

4. What is your highest educational degree? (please check one)
   - ☐ Less than Bachelors
   - ☐ Bachelors
   - ☐ Masters
   - ☐ Doctorate
   - ☐ Other: _____ (please describe)

5. How many years experience do you have in Cooperative Education, excluding current year? _____ (years)

Part II Institution and Program Organizational Characteristics

6. Which of the following best describes your institution? (please check one)
   - — Two-year public college ☐
   - — Two-year private college ☐
   - — Four-year public college or university ☐
   - — Four-year private college or university ☐

For question 7, please indicate the number of personnel working for the institution that you *directly* supervised during the 1979-1980 school year. If personnel changes were made during the year, please indicate the average (most normal) number of personnel working who reported directly to you. Include part-time personnel who regularly were assigned cooperative education duties.

7. What was the total number of personnel who formally reported directly to you during the 1979-1980 school year? _____ 7.

NOTE: For questions 7a-7f, please do not "double count" your personnel. The sum of responses for 7a-7f should total your response to question 7.

7a. How many *full-time* cooperative education coordinators reported directly to you? _____ 7a.

7b. How many *part-time* cooperative education coordinators (that are instructional faculty employed at the college full-time) reported directly to you? _____ 7b.

7c. How many *full-time* administrative assistants did you directly supervise? _____ 7c.

7d. How many *full-time* cooperative education clerical/secretarial personnel reported directly to you? _____ 7d.

7a. How many *full-time* other employees reported directly to you? (please specify their titles) 7a.

7t. How many *part-time* other employees reported directly to you? (please specify their titles) 7t.

8. Within the institution's organizational pattern, is cooperative education administratively located with instructional/academic? ☐ YES ☐ NO

9. What is the formal title of your immediate superior? 9.

10. What is your formal title? 10.

For questions 11-22, *circle* the response to which your organizational pattern conforms most closely. The response scale varies from 1 = Least Resembles, to 5 = Most Resembles. Please circle *only one response* for each statement.

	Least Resembles	2	3	4	Most Resembles
11. To obtain information about cooperative education, students must go to a single cooperative education office.	1	2	3	4	5
12. Instructional (Academic) departments award cooperative education credit.	1	2	3	4	5
13. All cooperative education coordinator offices are located in various academic department offices.	1	2	3	4	5
14. Student work placements are made by the cooperative education director only.	1	2	3	4	5
15. Coordinator's activities are solely scheduled by each individual coordinator.	1	2	3	4	5
16. Coordinator's activities are scheduled by collaborative effort between each individual coordinator and the co-op director.	1	2	3	4	5
17. Coordinators activities are scheduled by the institution's administration.	1	2	3	4	5
18. Program evaluation methods and frequency are not standardized institutionally, but depends upon the experience and motivation of co-op personnel.	1	2	3	4	5
19. Task instructions to co-op personnel usually take the form of oral communications.	1	2	3	4	5
20. Task instructions to co-op personnel usually take the form of written documents.	1	2	3	4	5
21. Learning objectives are written on standardized forms, and copies are held by the director, coordinator, student, and employer.	1	2	3	4	5
22. Cooperative education forms, and/or brochures, and/or manuals are normally distributed to co-op and institutional personnel, co-op students, and employers.	1	2	3	4	5

23. Does your institution have a written organizational chart? ☐ YES ☐ NO ☐ UNKNOWN

24. Do most of the institutional personnel receive a copy of the written organizational chart, including revisions? ☐ YES ☐ NO ☐ NOT APPLICABLE

25. To what extent are there written job descriptions *for* co-op personnel? (please circle one)

1. None
2. Director only
3. Director and full-time coordinators.
4. Director and all full-time co-op personnel.
5. All full-time and part-time co-op personnel.

26. Are there a written procedures, rules, and policies manual *for* the operation of the co-op program? ☐ YES ☐ NO ☐ PARTIALLY

27. Please identify the titles of each level (superior-subordinate relationship) of administration that exists between you, as the cooperative educatio director, and the president of the institution.

EXAMPLE
1. Co-op Director
2. Dean of Engineering
3. VP for Instruction
4. President

—YOU—
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

28. Please identify the titles of each level (superior-subordinate relationship) of administration that exists between a cooperative educatio coordinator and *you* as the cooperative education director.

EXAMPLE
1. Co-op coordinator
2. Assistant director
3. Director of co-op

—CO-OP COORDINATOR—
1.
2.
3.
4.
5.
6.

29. To what extent do you, as the cooperative education director, make decisions to hire personnel *for your department*?

30. To what extent do you, as the cooperative education director, make the decisions to dismiss personnel that you supervise?

31. To what extent do you, as the cooperative education director, make personnel assignments related to the operation of cooperative education?

(29, 30, 31)
☐ no decision input
☐ minor decision input
☐ equal participation on decisions
☐ major decision input
☐ only I make the decisions

Part III Cooperative Education Program Data

Part III requires information relative to your cooperative education program operations during the 1979-80 school year. You may have to refer to your files, reports, or seek other campus sources for the information needed. Accuracy will be appreciated.

32. What was the *total student enrollment* (head count) in the cooperative education program (including part-time students) during the fall term of 1979? ____ 32.

33. What were the *total number of academic (instructional) departments* who had students enrolled in cooperative education during 1979-80? ____ 33.

34. What was the *total number of students working* on cooperative education work assignments during 1979-80? ____ 34.

35. What was the *total budget amount spent* for the operation of cooperative education during 1979-80 fiscal year? (Include all funding sources) ____ 35.

36. What was the *total number of individual job offers made* to cooperative education graduates by co-op employers (only) during 1979-80? ____ 36.

37. What were the *total number of job openings (work stations)* provided by co-op employers for cooperative education students during 1979-80? ____ 37.

38. What were the *total number of academic (instructional) departments* in your entire institution during 1979-80? ____ 38.

39. What was the *total number of full-time instructional faculty* at your entire institution during the fall term of 1979? ____ 39.

40. What was the *total number of part-time instructional faculty* (not considered full-time employees of the institution) at your entire institution during the fall term of 1979? ____ 40.

41. What was the *total student enrollment (head count)* in your entire institution (including part-time students) during the fall term of 1979? ____ 41.

Part IV Leadership Opinion Questionnaire

Attached is a standardized questionnaire. Please read the instructions carefully. It is not necessary for you to fill-in your name, unless you desire to do so. This portion of the questionnaire should take no longer than 15 minutes. Please do not separate or detach the forms comprising the questionnaire as it will be scored by the researcher. All information will be kept strictly confidential.

THANK YOU FOR YOUR VALUABLE INPUT TO THIS RESEARCH PROJECT!
YOUR SUPPORT IS APPRECIATED!!

FOR RESEARCHERS USE ONLY:

	RAWSCORE	PERCENTILE
C		
S		

Appendix D
L.O.Q. Validity, Reliability, and Normative Data

Reliability. Internal consistency reliabilities were obtained by the split-half method (correlations for odd- and even-numbered items within each scale, corrected for full length of each scale). Test-retest reliabilities were obtained with a three-month interval between test periods for the sample of 31 first-line supervisors and a one-month interval for the sample of 24 Air Force NCOs. Split-half reliabilities and test-retest reliabilities (denoted by *) are shown in Table 1.

Table 53
Reliability Estimates of the LOQ

N	Sample	C	S
122	First-line Supervisors	.70	.79
202	ROTC Cadets	.80	.82
394	Manufacturing Employees	.89	.88
120	Executives	.62	.80
31	First-line Supervisors	.80*	.74*
80	Foremen in a Pharmaceutical Company	.70	.69
24	Air Force NCOs	.77*	.67*
90	Supervisor Applicants in Swedish Company	.74	.82

Validity. Construct validity is maximized. The two dimensions measured by the LOQ were developed by factor-analysis procedures. Item analysis was carried out to provide homogeneous measures of consideration and structure. Empirical validities--correlations between the LOQ scales and

a variety of different criteria, which have been obtained previously in diverse organizations with different types of supervisors and managers, have demonstrated significant correlations.

Normative Data are based on more than three thousand supervisory and managerial personnel in diverse organizations and organizational levels. Norms for Educational Supervisors are shown in Table 2.

Table 54
Norms for Educational Supervisors

Verbal Description	Percentile	Educational Supervisors N = 100 C	S
Very High	99	76	61
	98	74	--
	97	73	55
High	95	72	54
	90	71	52
	85	70	51
	80	68	50
	75	66	49
Average	69	65	46
	60	63	44
	50	62	42
	40	61	41
	31	60	39
Low	25	58	38
	20	57	37
	15	56	36
	10	55	34
	5	54	31
Very Low	3	52	29
	1	--	--

Appendix E
Questionnaire Schedule

BACKGROUND DATA

ITEM NO.	INFORMATION
1	Years in present position
2	Gender
3	Age
4	Educational Attainment
5	Years experience in co-op
6	Type of institution
9	Director's formal title

LEADERSHIP STYLE (LEADERSHIP OPINION QUESTIONNAIRE)

ITEM NO. ON LOQ	STYLE CONSTRUCT
1, 3, 4, 6, 9, 14	Initiating Structure
16, 18, 20, 21, 25	
27, 29, 30, 31, 32	
35, 36, 38, 40	
2, 5, 7, 8, 10, 11	Consideration
12, 13, 15, 17, 19	
22, 25, 28, 29	

ORGANIZATION STRUCTURAL CHARACTERISTICS

ITEM NO.	
11, 12, 13, 14, 29, 30, 31	Centralization-Decentralization
7 (a-f), 27, 28	Configuration
8, 9, 27, (for conformation of placement within organization)	
15, 16, 17, 18, 19, 20	Standardization
21, 22, 23, 24, 25, 26	Formalization

QUANTIFIED COOPERATIVE EDUCATION EFFECTIVENESS VARIABLES

ITEM NO.	VARIABLE
32 ÷ 41x100	Percentage of co-op students of total students.
7b ÷ 39x100	Percent of full-time faculty who are co-op coordinators
33 ÷ 38x100	Percent of academic departments who have co-op students
35 ÷ 34	Cost per co-op student placement
36 ÷ 37x100	Percent of co-op employers making job offers to co-op graduates.

Appendix F
Pilot Sample

120006
Robert Dicarlo
Director of Cooperative Education
Greenfield Community College
Greenfield, Massachusetts 01301
Mr. Dicarlo

120013
Lorraine Fine
Coordinator Community Based Learning
North Shore Community College
Beverly, Massachusetts 01915
Ms. Fine

220103
Dr. Alfred E. Berkowitz, Prgm. Dir.
Kingsborough Community College
Oriental Blvd. Manhatten Beach
Brooklyn, New York 11235
Dr. Berkowitz

220153
Bart Burne, Dir., Cooperative Ed.
Lackawanna Junior College
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Scraton, Pennsylvania 18503
Mr. Burne

320225
Dempsey D. Burgess
Director of Occupational Ed.
College of the Albermarle
Elizabeth City, North Carolina 27909
Mr. Burgess

320423
Maxeen Guthrie, Dir. Coop Ed. & Plmt.
North Harris County College
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Houston, Texas 77073
Ms. Guthrie

420473
Phil D. Randolph, Assoc Dean Occ Ed
Glendale Community College
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Glendale, Arizona 85301
Mr. Randolph

420504
Gary L. Boatright
Director, Occupational Programs
Seminole Junior College
Seminole, Oklahoma 74868
Mr. Boatright

140009
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Central New England College
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Worcester, Massachusetts 01608
Mr. Eaton

140041
Edward L. Page
Director of Cooperative Education
University of Maine at Machias
Machias, Massachusetts 04654
Mr. Page

240137
Louis T. Chirpes
Director of Cooperative Education
Robert Morris College
Pittsburgh, Pennsylvania 15219
Mr. Chirpes

240149
B. R. Irvin, Dir. Cooperative Ed.
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340247
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440732
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520780
Sarah Jones, Coord. Cooperative Ed.
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Ms. Jones

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Dr. H. Daniel Madsen
Director of Cooperative Education
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Longview, Washington 98632
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620836
Fred Lewis
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620872
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Oakland, California 94607
Mr. Erickson

540777
Lane L. Compton, Dir. Co-op Ed.
Brigham Young University
371 Est B
Provo, Utah 84602
Mr. Compton

540794
Melanie Boosman, Dir. Co-op Ed.
Edmonds Community College
20000 68th Avenue West
Lynnwood, Washington 98036
Ms. Boosman

640865
Dr. Gerrit Groen, Program Director
University of San Francisco
21 Fulton Avenue
San Francisco, California 94117
Dr. Groen

640886
C. Bruce Johnston, Cooperative Ed. Coor.
Humboldt State University
Career Development Center
Arcata, California 95521
Mr. Johnston

Appendix G
Example of Pilot Study Cover Letter

July 15, 1980

John Doe
Director of Cooperative Education
Blanktown College
Anyplace, State 00000

YOUR HELP IS NEEDED!

Dear Mr. Doe

Your cooperative education experience can contribute to some very important research. As the director of your institution's cooperative education program, your responses to, and evaluation of, the enclosed questionnaire will provide valuable input for improving the proposed study. This phase of the research is a pilot study to determine the viability of the questionnaire. An expert panel has assisted in the developmental process of the survey instrument.

Determining factors that contribute to successful cooperative education programs through research is an important way in which we can contribute knowledge to the cooperative education community. This study will attempt to identify some of the related factors which contribute to program outcomes. Following this pilot study, personnel from Utah State University will be conducting a nation-wide study of cooperative education program directors in institutions of higher education. The purpose of this study is to gather data on the director's leadership style, the program and institution's organizational structure, and co-op program outcomes. The data will be analyzed to identify any relationships that may exist. The questionnaire has been designed based upon Leadership and Organization Theory and adapted to cooperative education.

Prior to the primary survey, we need your help in completing and evaluating the data gathering instrument. After completing the questionnaire, please complete the short evaluation form accompanying the questionnaire.

When you have completed the questionnaire and the evaluation form, please return them by July 25, 1980, in the enclosed, addressed envelope. Please call me at 801-750-2276, if this mailing date cannot be met. If you would like a copy of the results of the final survey, please complete the Request for Findings form enclosed, and return it with the questionnaire and evaluation form. Your assistance in completing the questionnaire and the evaluation form will be greatly appreciated. I will be looking forward to your response.

Sincerely

William A. Stull
Project Director

Michael M. Homer
Research Consultant

Enclosures (4)
mh/tm

Appendix H
Pilot Study Evaluation Form for the
Cooperative Education Directors Survey

Please answer the following questions after completing the items contained in the questionnaire. Please make any comments on the reverse side of this form.

1. Were the directions for the various sections clear? ( ) YES ( ) NO

2. Were the questions and statements clear? ( ) YES ( ) NO

   If "NO", please indicate what sections or items were ambiguous and in what way were they unclear. Any suggestions to improve wording will be appreciated!

3. Was there any terminology in the questionnaire which needs to be defined in order to clarify the questions or statements? ( ) YES ( ) NO

   Please circle the unclear terms on the questionnaire.

4. Were the questions and statements appropriate for cooperative education directors at institutions of higher education in the United States; that is, do you believe they will have the ability, capacity, and resources to adequately respond? ( ) YES ( ) NO

   If "NO", please identify the items on the reverse side of this form and the reason you believe the item will not result in an appropriate response.

5. Were there any items you think may not be valid; that is, do any of the questions or statements appear to deal with irrelevant content other than background data for the respondent, institution and co-op program organization, and quantified program outcomes? ( ) YES ( ) NO

   Please note those items which you would suggest be omitted and identify your reason the item is invalid on the reverse side of this form.

6. Do you feel the questionnaire is too long, including the Leadership Opinion Questionnaire? ( ) YES ( ) NO

   If "YES", please note below any suggestions for changes or administration of the questionnaire.

   _____

   _____

7. Was the printing size of the questionnaire large enough for ease of reading? ( ) YES ( ) NO

Title Name

Appendix I
Example of Request for Findings Form

REQUEST FOR FINDINGS

Please send me the results of the study on the relationship of cooperative education directors leadership style, organization structure, on co-op program outcomes.

SEND TO:

NAME _____

TITLE _____

DEPARTMENT _____

INSTITUTION _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Appendix J
Example of Notification of Selection Letter

October 1, 1980

John Doe
Director of Cooperative Education
Blanktown College
Anyplace, State 00000

Dear Mr. Doe

You have been selected to participate in a very important research project concerning leadership, organizations and outcomes in cooperative education. In approximately two weeks you will receive by mail, a questionnaire intended to accomplish the purpose of this study. As the director (person responsible) of your institution's cooperative education program, your responses to the survey will be valuable in contributing to new knowledge for the cooperative education community.

This study is intended to identify some of the related factors which contribute to cooperative education program outcomes. Personnel from Utah State University under the auspices of the United States Department of Education will gather data on the director's leadership style, the program and institution's organizational structure, and co-op program outcomes. The data you provide will be combined with other director's responses. Your identity will remain confidential.

Personnel changes inevitably occur. We have attempted to obtain the most current available list of cooperative education directors. If this letter is in anyway improperly addressed, please accept our apologies. Please make note of any changes that should be made on the enclosed addressed postcard and mail the card as soon as possible so there will be no delays in your receiving the survey materials.

We will be looking forward to your responses to this survey.

Sincerely

Dr. William A. Stull
Project Director and
Chairman of the CEA Research Committee

Michael M. Homer
Research Consultant

MH:tm
Enclosures

Appendix K
Example of Initial Mailing Cover Letter

October 20, 1980

John Doe
Director of Cooperative Education
Blanktown College
Anyplace, State 00000

Dear Mr. Doe

You and your institution's cooperative education program can contribute some very important information to a better understanding of cooperative education program success. As director of your institution's cooperative education program, your responses to the enclosed survey are needed for this study to be valid and representative of co-op programs nation-wide.

The questionnaire has been developed based upon Leadership and Organization Theory and adapted to cooperative education. Members of the Cooperative Education Association research committee have assisted in the development of the survey instrument and a pilot study has confirmed its viability. The purpose of this study is to gather data on the director's leadership style, the program and institution's organizational structure, and co-op program outcomes. The data will be analyzed to assess any relationships which may exist.

This national study is being conducted by personnel from Utah State University and is supported by the United State Department of Education. We recognize how busy you are with the beginning of the school year and appreciate your time and contribution.

When you have completed the survey, please return them by November 3, 1980, in the enclosed, addressed envelope. Please call at 801-750-2346, if this mailing date cannot be met. If you would like a copy of the results of the survey, please complete the Request for Findings form enclosed, and return it with the completed questionnaire. We will be looking forward to your response.

Sincerely

Dr. William A. Stull
Project Director

Michael M. Homer
Research Consultant

MH:tm
Enclosures (3)

Appendix L
Postcard Follow-up Message

On October 20, 1980, a mail questionnaire concerning Leadership, Organization, and Cooperative Education Program Outcomes was sent to you. As of this mailing, we have not received your response to this important survey. If you have already completed the questionnaire, Thank you. If you have not completed the survey, please take time now to repond, your participation is vitally needed.

Sincerely

Dr. William A. Stull

Appendix M
Example of Follow-up Mailing Cover Letter

November 25, 1980

John Doe
Director of Cooperative Education
Blanktown College
Anyplace, State 00000

Dear Mr. Doe

OUR MAILBOX IS EMPTY!

Your response to the cooperative education survey which was sent on October 20th has not been received. Your participation in the study is vitally important!

If you have mailed the completed questionnaire, THANK YOU. If, however, you have been extremely busy and have deferred completing the questionnaire or if you have not received the original questionnaire, we are enclosing another survey and pre-posted return envelope.

The reliability and validity of this study depends upon your responses to this survey. Please take the time now to complete and return the enclosed survey. The research team and the cooperative education community with the support of the U.S. Department of Education is relying upon your participation in helping to identify the Leadership Styles and Organizational characteristics which contribute to effective Cooperative Education Program Outcomes.

Along with the survey forms we are enclosing a Request For Findings Form which you may wish to complete and return with the completed survey. As soon as the study is complete we will be happy to send you the findings of this important research effort. The time schedule of this research project is such that your immediate response is needed. Our mailbox is eagerly awaiting your response to the survey.

Respectfully,

Dr. William A. Stull
Project Director

Michael M. Homer
Research Consultant

P.S. If you have any questions, please call us at (801) 750-2346.

MH:tm

APPENDIX N
Example of Thank You Letter

John Doe
Director of Cooperative Education
Blanktown College
Anyplace, State 00000

Dear Mr. Doe

All too frequently researchers do not take the time to recognize the contributions of the participants in research studies. Your participation on the recent cooperative education research study on Leadership, Organization and Program Outcomes has been of great value.

I want to personally thank you and express my most sincere appreciation for your time and effort in completing and returning the questionnaire.

If I can ever be of service, please feel free to contact me.

Most sincerely,

Dr. William A. Stull
Project Director

Michael M. Homer
Research Consultant

MH:tm

Table 55
Variable List and Correlation Matrix for Leadership Style Variables and Organizational Structural Variables

INDEPENDENT VARIABLES

Symbol	Description	Variable Measure
Raw C	Raw score on leadership style dimension of consideration	Consideration
Raw S	Raw score on leadership style dimension of initiating structure	Structure

DEPENDENT VARIABLES

Symbol	Description	Variable Measure
CENT 2	Decision making authority	Centralization
STD1	Task instructions oral or written	Standardization
SD1	Coordinator schedules own activities	Standardization
SD3	Coordinator activities scheduled by institution's administration	Standardization
FM1	Learning objectives written on standardized forms and copies distributed	Formalization
ORGPTHAC	Co-op program located within academic or non-academic organization	Placement within organization
SPANCONT	Number of employees who directly report to the co-op director (Span of control)	Configuration

	RAW C	RAW S	CENT2	STO1	SD1	SD3	FM1	ORGPTHAC	SPANCONT
RAW C	1.00								
RAW S	-0.09	1.00							
CENT2	-0.12	-0.07	1.00						
STO1	-0.03	0.11	-0.02	1.00					
SD1	0.01	0.05	-0.13	0.07	1.00				
SD3	0.01	0.17	0.00	0.05	0.05	1.00			
FM1	0.01	0.05	-0.05	0.07	0.14	0.10	1.00		
ORGPTHAC	-0.06	0.02	0.10	-0.04	0.16	0.01	0.07	1.00	
SPANCONT	-0.07	0.08	-0.24	0.17	-0.06	0.23	0.15	-0.06	1.00

Table 56
Variable List and Correlation Matrix for Leadership Style, Organizational Structure and Program Outcome Variables

INDEPENDENT VARIABLES

Symbol	Description	Variable Measure
CENT 2	Decision making authority	Centralization
STD1	Task instructions oral or written	Standardization
SD1	Coordinator schedules own activities	Standardization
SD3	Coordinator activities scheduled by institution's administration	Standardization
FM1	Learning objectives written on standardized forms and copies distributed.	Formalization
ORGPTHAC	Co-op program located within academic or non-academic organization.	Placement within Institution
SPANCONT	Number of employees who directly report to the co-op director (Span of Control)	Configuration
Raw C	Raw score on leadership style dimension consideration	Consideration
Raw S	Raw score on leadership style dimension of initiating structure	Structure

DEPENDENT VARIABLES

Symbol	Description
V	Percent of total students who are co-op students
X	Percent of total academic departments who have co-op students.
Y	Cost per cooperative education student placement.

	CENT2	STD1	SD1	SD3	FM1	ORGPTHAC	SPANCONT	RAW C	RAW S	V	X	Y
CENT2	1.00											
STD1	-0.02	1.00										
SD1	-0.14	0.07	1.00									
SD3	0.01	0.05	0.05	1.00								
FM1	-0.05	0.07	0.14	0.10	1.00							
ORGPTHAC	0.10	-0.04	0.16	0.01	0.07	1.00						
SPANCONT	-0.24	0.17	-0.06	0.23	0.15	-0.06	1.00					
RAW C	-0.12	-0.03	0.01	0.01	0.01	-0.06	-0.07	1.00				
RAW S	-0.07	0.11	0.05	0.17	0.05	0.02	0.08	-0.09	1.00			
V	-0.14	-0.01	0.08	-0.07	0.00	0.04	0.01	0.21	-0.04	1.00		
X	-0.15	0.15	-0.15	0.12	0.19	-0.02	0.01	0.02	0.04	0.26	1.00	
Y	-0.05	0.02	0.30	0.03	0.06	-0.01	-0.05	-0.14	0.04	-0.10	-0.13	1.00